MCM®/ICM®
Contest Rules, Registration and Instructions
January 28 - February 1, 2027

(All rules and instructions apply to both ICM and MCM contests.)

RECENT CHANGES TO THE MCM/ICM RULES ARE HIGHLIGHTED IN RED

COMAP'S Mathematical Contest in Modeling (MCM)® / Interdisciplinary Contest in Modeling (ICM)® is an international contest designed to provide undergraduate students with the opportunity to work as team members to engage in and improve their modeling, problem solving, and writing skills. Teams apply mathematics to model, develop, and communicate a solution to a real-world problem.

2027 Contest Dates and Times:

- Registration Deadline: Before 3:00 p.m. EST on Thursday, January 28, 2027.
- Contest Starts: 5:00 p.m. EST on Thursday, January 28, 2027.
- Contest Ends: 8:00 p.m. EST on Monday, February 1, 2027.
- Solution Report Deadline: 9:00 p.m. EST on Monday, February 1, 2027.
- Contest Results: Results will be available on May 8, 2027.

MCM/ICM Rules, Registration, and Instructions

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Notes:

- **COMAP is in the USA Eastern time zone: all times given in these instructions are in terms of Eastern Standard Time (EST) except where local time is noted.**
- **COMAP is the final arbiter of all rules and policies, and may refuse to register, disqualify, or reduce the award level of any team that, in its sole discretion, does not follow contest rules, regulations, or requirements.**
- **Decisions of the judges and the contest directors are final.**
- **Please print a copy of these contest instructions for reference before, during, and after the contest. Click here for the printer friendly version.**

I. Participants and Advisors

Team Members: A team may consist of up to **three students currently enrolled in the same school**. Students may be enrolled in any department or program at the school. There is no limit to the number of teams a school may register. The contest is open to all undergraduate and high school students. An advisor must complete the registration process for each team.

School or Institution: For the purposes of participating in the MCM/ICM, a team's school or institution is the primary and comprehensive full-time provider for all of the team members' education studies in all subjects. Tutoring, test-prep, contest-prep, and math- or STEM-learning centers are not considered schools/institutions for the purposes of registering and competing in COMAP contests.

Team Advisors: Any faculty, staff member, or student at the team's institution can fulfill the role of Advisor. The advisor will act as the main point of contact for the team, and does not have to be from the mathematics department. We encourage faculty members to serve as team advisors; however, one team member or another student at the school may act as the advisor.

II. MCM/ICM Resource Guides

MCM/ICM: Registration Walk Through
The purpose of this article is to assist and guide advisors participating in the MCM/ICM. In the article, COMAP provides information about the contest registration process.

MCM-ICM: Procedures and Tips for a Great Experience
The purpose of this article is to assist and guide students and advisors participating in MCM/ICM. In the article, COMAP, provides information about the administration of the contests, as well as tips to ensure your contest experience is smooth, satisfying, enjoyable, and successful.

Use of AI Tools in COMAP Contests
This policy is motivated by the rise of large language models (LLMs) and generative AI assisted technologies. The policy aims to provide greater transparency and guidance to teams, advisors, and judges. This policy applies to all aspects of student work, from research and development of models (including code creation) to the written report. Since these emerging technologies are quickly evolving, COMAP will refine this policy as appropriate.

MCM-ICM: Online Submission Process
The purpose of this article is to assist and guide students and advisors participating in MCM/ICM. In the article, COMAP, provides information about the new online submission process using the new online submission page **https://forms.comap.org/241335097294056**. You will need your team's **control number, advisor id number** and your **problem choice** to complete your submission.

III. Changes for 2027

- New online submission process using the new online submission page **https://forms.comap.org/241335097294056**. You will need your team's **control number**, **advisor id number** and your **problem choice** to complete your submission.
- Registration process has been streamlined and split into 2 parts: Advisor Registration and Team Registration.
- The MCM/ICM Contest now have a 25 page limit. The 25 page limit applies to the entire submission including the Summary Sheet, Solution, Reference List, Table of Contents, Notes, Appendices, Code and any problem specific requirements.
- **Use of AI Tools in COMAP Contests.**

IV. Contest Rules

1. The 2027 MCM/ICM contest period runs between 5:00 p.m. EST Thursday, January 28, 2027 and 8:00 p.m. EST on Monday, February 1, 2027.
2. Each team may consist of a maximum of three undergraduate (or below) students enrolled full- or part-time at the same school/institution at the time of the contest. Teams may consist of 1, 2, or 3 students and each student may only participate on one team.
3. Each team must have an advisor who is a staff member, a faculty member, or a student at the team members' institution. Advisors can serve more than one team. Advisors must register teams prior to 3p.m. EST on Thursday, January 28, 2027.
4. Teams must obtain and use the Control Number and password assigned to them at registration to participate in MCM/ICM.
5. Not later than the opening of the contest window, advisors must assign team members to a particular team, and cannot add or change student assignments for the duration of the contest. Teams may, however, remove a team member, if he or she decides not to participate.
6. Once the contest window opens (5:00 p.m. on Thursday, January 28, 2027), **team membership must be set and teams may not use any persons, other than their own team members, to discuss or obtain ideas for working on and solving their problem.** Teams **may** use any "inanimate" resource they find on their own such as: web pages, books, articles, research reports, databases, etc. Teams **may not** seek help in obtaining answers, ideas, or information, or in locating appropriate resources, from any persons outside of their team to include their advisor, other teachers, other students, and/or experts or professionals in a field relevant to the problem. This restriction includes personal or telephonic contact, as well as use of electronic social media such as, but not limited to: emails, texting, chat rooms, question-answer systems, interactive blogs, X, Weibo, online help or support sites, etc. Additionally, posting or sharing any part or all of the problem statement, your team's solution process, or any partial or complete work in any form or medium during the contest is strictly prohibited. COMAP will disqualify or deem unsuccessful any team that violates this rule. The relevant issue is one of intent: each team of students is expected to develop all of its substantive analysis and solution without the help of others.
7. Teams must document any outside sources of information by using footnotes, endnotes, or in-line documentation, and include appropriate citations in a reference list or Bibliography of these sources.
8. Teams choose to work on one problem (MCM: A, MCM: B, MCM C, ICM D, ICM E or ICM: F) and submit one solution for the problem of their choice.
9. The names of the students, advisor, and/or institution must not appear on any page of the solution. The solution must not contain any identifying information other than the team Control Number.
10. Papers must be submitted as an Adobe PDF electronic file, and typed in English, with a readable font of at least 12-point type. Papers must be within the 25 page limit.
11. Upon closing of the contest window at 8:00 p.m. EST Monday, February 1, 2027, advisors must ensure each team makes no further changes to their solution paper. Advisors must then ensure all solution documents are properly prepared and sent via submission form to COMAP for judging no later than **9:00 p.m. EST Monday, February 1, 2027** .
12. COMAP follows all accommodations relative to learning conditions for individual students used as part of the local school/institution program in an affected student's daily learning. If specialized staff is required, the school bears the responsibility for providing any specialized assistance as required by law. If such accommodations are required for a student participating, the school should detail them and the extent to which they were utilized as part of the MCM/ICM activities.
13. COMAP reserves the right to disqualify or reduce the award level of teams found to have violated the contest rules.

V. Contest Registration

The registration fee for MCM/ICM is $100 per team. Please register only the teams that will take part in the contest. Registration fees are non-refundable. We accept payment via Credit Card, and payment must be made via our secure web site. Our secure site will process your credit card payment, so your credit card number is protected. Our system will not store your credit card number after it processes your payment. We regret that we are not able to accept other payment forms at this time.

All teams must be registered before 3:00 p.m. EST on Thursday, January 28, 2027. We recommend that all teams complete the registration process well in advance, since the registration system will not accept any new team registrations after the deadline. COMAP will not accept late registrations for MCM/ICM 2027 **under any circumstances. NO EXCEPTIONS WILL BE MADE.** *Note: Advisors do not have to designate specific team members when registering "a team." COMAP suggests you register the number of teams needed well prior to the deadline and then return to the contest site once team membership is set to enter specific students to each "Control Number" team you have registered.*

The 2-part registration process will take advisors through a series of screens that ask for an email address and contact information. Enter the required information as you step through the screens. **Be sure to use a valid current email address** so that we can use it to contact you at any point before, during, or after the contest, if necessary.

1. **All Registration Activity: /undergraduate/contests/mcm.** COMAP will accept no other forms of registration. Advisors may register any number of teams, and should use the same email address and password for all teams under the same advisor.
2. **Advisor Registration:** If you are an advisor entering the contest site for the first time for the 2027 contest, click on **Register for Contest** on the left-hand side of the screen to register as an Advisor. Enter your email and click Continue Advisor Registration. Follow the step to continue and finish your registration. **IMPORTANT:** Be sure to use a valid and current email address as you will use this email to register all of your teams, and communicate with COMAP. Additionally, COMAP will use this email to contact you at any point before, during, and after the contest, if necessary.
3. **Register a Team or Teams:** On the contest site, click on **Advisor Login** , then log in with the same email address and password that you used when you registered as an advisor. Once you are logged in, click on **Register Team** near the upper right corner of the page and follow the instructions there. **There is no restriction on the number of teams an advisor can register.**

    a. Fill in billing information. After we receive approval from your financial institution (this takes only a few seconds), the system will issue a control number for your team.
    b. Each team is not officially registered until you have received a team **control number for that team** . The registration page also lists the email address and password that you entered when registering; you will need this information to complete the contest procedures. **Make a record of each team control number.** You will **NOT** receive an email confirmation of your registration.
    c. You may specify the team members at the time of registration, or at a later time. Advisors may assign team members to specific teams and control numbers up until the beginning of the contest period. Once the contest opens, team members cannot be added or changed. The spelling of all names and institutions is the responsibility of the advisor. This is exactly as they will appear on certificates. The order of the student names has no bearing or importance on participation. In the eyes of COMAP and the contest directors,all team members are equal. Advisors should ensure they spell team members' names correctly when registering. COMAP will not reprint certificates.
    d. To register additional teams, repeat the procedures listed above.

4. If you need to change any of the advisor or institution information (name, address, contact information, etc.) that you specified when you registered, you can do so at any point before or during the contest by logging in to the contest web site with the same email address and password that you used when registering (click on the **Advisor Login** link on the left side of the screen). Once logged in, click on the **Edit Advisor or Institution Data** link near the upper right corner of the page.
5. Check the contest web site regularly for any updated instructions or announcements about the contest. Except in extreme circumstances, COMAP will not send any confirmation, reminders, or announcements by email. All communication regarding the contest will be via the contest web site and X/Weibo.
6. Follow COMAPMath on X or COMAPCHINAOFFICIAL on Weibo for the most up to date information before, during, and after the contest.

VI. Contest Instructions

Before the Contest - Preparing a Team

1. We encourage advisors and faculty to coach and prepare students **BEFORE** the start of the contest. COMAP offers several resources:
   a. Go to the MCM/ICM web site and review the rules, guidelines, and prior years' problems.
   b. Visit **www.mathmodels.org** to view previous years' problems and solutions.
   c. Visit **/undergraduate/contests/resources/index.html** , the MCM/ICM Articles, Resources, and Links page.
   d. The MCM/ICM Resource Guides found in the **Resource Guides section above** provide students and advisors tips for before, during, and after the contest.
   e. Read the Summer and Fall UMAP Journal MCM and ICM articles, which include the Director's Article and Judges' Commentary for MCM and ICM. These articles describe what judges look for in the various sections of solutions.

During the Contest - Choosing and Solving the Problem

1. The contest problems become available for teams to view at precisely 5:00 p.m. EST on Thursday January 28, 2027 on the contest web site:
   /undergraduate/contests/mcm
   No password is needed to view the problems. Simply go to the contest web site at or after 5 p.m. EST on Thursday, January 28, 2027 and you will see a link to view the problems.
2. The contest problems will also become available for teams to view precisely at 4:50PM EST on Thursday January 28, 2027 on the following mirror sites:
   https://www.comapmath.com/MCMICM/index.html (Asia)
   https://www.comap-math.org/mcm/index.html (North America)
   https://www.mathportals.org/mcm/index.html (North America)
   If you cannot access any of the sites, there may be a problem with your local Internet connection. Contact your local Internet service provider to resolve the issue.
3. Each registered team may choose any one of the six problem choices and should submit a solution to only one problem.
   - **MCM problems are Problem A, Problem B, Problem C.**
   - **ICM problems are Problem D, Problem E, Problem F.**
4. Teams may use any inanimate source of data, materials, computers, software, references, websites, books, etc. Teams should reference all sources used using footnotes, endnotes, or in-line documentation, and include an associated reference list citing all sources.
5. Teams may not seek help from any person outside of team members as delineated in the Contest Rules (specifically Rule #6).
6. Teams should keep in mind the following guidelines when solving the problem and developing their solution.
   a. **Summary Sheet:** The summary is an essential part of your MCM/ICM paper and should appear as the first page of your solution report. The judges place considerable weight on the summary, and winning papers are often distinguished from other papers based on the quality of the summary. **Click here to download the Microsoft Word Summary Sheet** or **Click here to download the LaTeX Summary Sheet.**
      • To write a good summary, imagine that a reader will choose whether to read the body of the paper based on your summary: Your concise presentation in the summary should inspire a reader to learn about the details of your work.
      • You should write the summary last, as it should clearly describe your approach to the problem and, most prominently, your most important conclusions. Ensure you plan time after solving your problem to write a comprehensive and articulate summary.
      • Summaries that are mere restatements of the contest problem, or are a cut-and-paste boilerplate from the Introduction are generally considered to be weak.
   b. **Overall:** The team's solution should be articulate, concise, and organized in order to allow the reader to easily follow the solution process and conclusions. Key statements should present major ideas and results.
      • A Table of Contents assists the reader in previewing the organization of your report.
      • Present a clarification or restatement of the problem as appropriate.
      • Present a clear exposition of all variables and hypotheses.
      • State and justify reasonable assumptions that bear on the problem.
      • Present an analysis of the problem, motivating or justifying the model being used.
      • Summarize derivations, computations, or illustrative examples in the main body of the solution, and leave lengthy derivations and/or calculations and data in appropriate appendices.
      • Include a design of the model. Discuss how the model could be tested, to include error analysis, sensitivity, and/or stability.
      • Discuss any apparent strengths or weaknesses to your model or approach.
      • Provide a conclusion and report results explicitly.
      • Document resources and references.
7. Follow COMAPMath on X or COMAPCHINAOFFICIAL on Weibo for the most up to date information before, during, and after the contest.

During the Contest - Use of AI Tools in COMAP Contests

This policy is motivated by the rise of large language models (LLMs) and generative AI assisted technologies. The policy aims to provide greater transparency and guidance to teams, advisors, and judges. This policy applies to all aspects of student work, from research and development of models (including code creation) to the written report. Since these emerging technologies are quickly evolving, COMAP will refine this policy as appropriate.

Teams must be open and honest about all their uses of AI tools. The more transparent a team and its submission are, the more likely it is that their work can be fully trusted, appreciated, and correctly used by others. These disclosures aid in understanding the development of intellectual work and in the proper acknowledgement of contributions. Without open and clear citations and references of the role of AI tools, it is more likely that questionable passages and work could be identified as plagiarism and disqualified.

Solving the problems **does not** require the use of AI tools, although their responsible use is permitted. COMAP recognizes the value of LLMs and generative AI as productivity tools that can help teams in preparing their submission; to generate initial ideas for a structure, for example, or when summarizing, paraphrasing, language polishing etc. There are many tasks in model development where human creativity and teamwork is essential, and where a reliance on AI tools introduces risks. Therefore, we advise caution when using these technologies for tasks such as model selection and building, assisting in the creation of code, interpreting data and results of models, and drawing scientific conclusions.

Guidance for teams

Teams are required to:

1. **Clearly indicate the use of AI tools in their report,** including which model was used and for what purpose. Please use inline citations and the reference section. Also append the Report on Use of AI (described below) after your 25-page solution.

2. **Verify the accuracy, validity, and appropriateness** of the content and any citations generated by language models and correct any errors or inconsistencies.

3. **Provide citation and references, following guidance provided here**. Double-check citations to ensure they are accurate and are properly referenced.

4. **Be conscious of the potential for plagiarism** since LLMs may reproduce substantial text from other sources. Check the original sources to be sure you are not plagiarizing someone else's work.

Citation and Referencing Directions

Think carefully about how to document and reference whatever tools the team may choose to use. A variety of style guides are beginning to incorporate policies for the citation and referencing of AI tools. Use inline citations and list all AI tools used in the reference section of your 25-page solution. Whether or not a team chooses to use AI tools, **the main solution report is still limited to 25 pages**. If a team chooses to utilize AI, following the end of your report, add a new section titled **Report on Use of AI**. This new section has no page limit and will not be counted as part of the 25-page solution. **Click here to download the COMAP AI contest policy with examples.**

During the Contest - Preparing a Solution Document

1. MCM/ICM solutions are judged as varying degrees of successfully completing the contest (from Successful Participant up to Outstanding). There is no passing or cut-off score, and therefore, partial solutions are acceptable and teams are encouraged to complete as much of the problem as they are able to do. MCM/ICM judges are primarily interested in the team's thought processes, analysis of the problem, modeling approaches, and mathematical methods.
2. Teams must submit their entire solution in one **Adobe PDF** electronic file, consisting of written text, figures, charts, and supporting materials. Papers must be typed in English, with a readable font of at least 12-point type. Do not send additional non solution files such as data or computer programs.
3. Each page of the solution must contain the team control number and the page number at the top of the page. Use a page header on each page - for example: **Team # 0000000, Page 6 of 25** .
4. Your solution report should start with the Summary Sheet followed by the team's solution. Ensure your solution meets the 25 page limit requirement. A Table of Contents is encouraged and does count toward the page limit. Reference list (or Bibliography), notes pages, and any appendices count toward the page limit and should be included after the solution pages.
5. Clearly indicate the use of LLMs or other AI tools in your report, including which model was used and for what purpose. Please use inline citations and the reference section. Also append the **Report on Use of AI** (**described here**) after your 25-page solution. This section has no page limit and will not be counted as part of the 25-page solution.
6. Names of the students, advisor, and/or institution **must not** appear on any page of the solution. The solution file **must not** contain any identifying information other than the team Control Number.
7. STOP making any changes to the solution at **8:00pm EST on Monday, February 1, 2027** .

During the Contest - Advisor Activities

1. After the contest begins at 5 p.m. EST on Thursday January 28, 2027, and while the teams are preparing their solutions, the advisor should login to the contest web site at **/undergraduate/contests/mcm** . Click on **Advisor Login** , and then enter your email address and password.
2. For each control number, if you have not done so already, enter the team member names and confirm that each name is spelled correctly. The order of the student names has no bearing or importance on participation. In the eyes of COMAP and the contest directors, all team members are equal. **This determines how the names will appear on the contest certificates. COMAP will not make any changes or reprint certificates for any reason.**
3. Specify the problem that each team has chosen to solve.
4. **Click here to download the Microsoft Word Summary Sheet** or **Click here to download the LaTeX Summary Sheet.** (This should be used as the first page of each team's electronic submission.)

After the Contest - Submitting a Solution Document - NEW for 2027

1. Teams must end all work on their solution by **8:00 p.m. EST on Monday February 1, 2027**, and send an **Adobe PDF** electronic file of its Solution Paper to COMAP by **9:00 p.m. EST on Monday, February 1, 2027**. *Note: Do not wait until the last minute. Send your solution as soon as it is completed and only send one copy.
2. No further modifications, enhancements, additions, or improvements may be made to the team's solution paper after 8:00 p.m. EST on February 1, 2027. Any changes to the solution will constitute a violation of the contest rules and may result in disqualification.
3. Each team is required to submit an Adobe PDF electronic copy of its solution using the new online submission page **https://forms.comap.org/241335097294056**. Any team member or the advisor may submit the PDF submission.

   A. You will need your **team's control number**, **advisor id number** and your **problem choice** to complete your submission.
   B. Your electronic PDF solution file MUST be received at COMAP on or before the submission deadline of 9:00 p.m. EST on February 1, 2027 .
   C. Use your team's control number as the name of your PDF file attachment. For example: **0000000.pdf. *Note: The attachment must be less than 25MB.**
   D. Page 1 of the team's PDF electronic solution should be the team summary, followed by the solution and any references and appendices.
   E. Do not include or send programs, software, databases, and/or other files with your solution, as they will not be used in the judging process.
   F. The names of the students, advisor, or institution should NOT appear on any page of the electronic solution.
   G. COMAP will accept only an Adobe PDF of your solution. Limit one solution per submission form.

4. Failure by a team to submit a solution via submission form by **9:00 p.m. EST on February 1, 2027** in accordance with the above instructions may result in disqualification or reduction of award level.

   NOTE: By submitting a MCM/ICM contest entry document, team members agree that:

   - Their submission and all rights to its publication become the property of COMAP.
   - COMAP may use, edit, excerpt, and publish this submission for promotional use or any other purpose, including placing it online, distributing it electronically, or publishing it in The UMAP Journal or otherwise, without compensation of any kind.
   - COMAP reserves the right to use in materials relating to this contest, the names of the team members, their advisor(s), and their affiliations, without further notification, permission, or compensation.
   - All images, figures, photographs, tables, and drawings in a team's submission were either created by the team, or, if reproduced or obtained from another source, the submission cites a specific reference for each at its location in the submission.
   - All direct quotations in the submission are enclosed in quotation marks or otherwise identified as such, with a specific reference cited for each at its location in the submission.

After the Contest - Advisor Actions

1. Advisors should use the **Advisor Login** link one to two days after the contest has closed to verify COMAP received your team's electronic solution. In most cases, COMAP will have solution status of all papers posted 24-48 hours after the contest window ends.
2. Visit the contest web site regularly and follow COMAP on @COMAPMath on X or COMAPCHINAOFFICIAL on Weibo for updates. COMAP will post the contest results on the web site as soon as they are available. It takes several weeks for the judges to evaluate the solutions and for COMAP to process the results. Please do not call or email COMAP regarding contest results.

VII. MCM/ICM Results and Recognition

1. Judging will be completed in April-June. Levels of awards for successful submissions are Successful Participant, Honorable Mention, Meritorious, Finalist, or Outstanding Winner. Submissions found to have rule or procedure violations, or problem solution issues may be designated as Disqualified or Unsuccessful. **Click here to view descriptions of the contest designations.**
2. COMAP will prepare news releases for local and national dissemination, and professional publications will announce results.
3. Every team that successfully submits a solution paper will be awarded a PDF certificate of participation. **Click here to download MCM/ICM certificates.**
4. Select teams will have all or portions of their solution papers published in COMAP's UMAP Journal.

VIII. MCM/ICM Awards and Prizes

The 2027 International COMAP Scholarship Award will be awarded to the six (6) top MCM/ICM teams from any of the participating countries/regions; $9000 being split among the team members and $1000 to the school represented with a maximum of $3000 paid per team member.

After the results are issued, each successfully participating team advisor and student will receive a PDF certificate of participation. You may login to the contest web site using the **Advisor Login** link to view and print your team's certificates. **Click here to download MCM/ICM certificates.**

- **MCM Awards (Problem A, B and C)**
- The Ben Fusaro Award will be accorded to an especially creative paper and will be chosen from the contest finalists.
- The Frank R. Giordano Award began in 2012. It honors Brig. Gen. (ret) Frank Giordano who directed the MCM for 20 years. This award goes to a paper that demonstrates true excellence in the execution of the modeling process.
- The Veena Mendiratta Award honors a Problem C paper that takes an application-oriented approach with a focus on usefulness and clarity. It recognizes creative and effective use of the data, along with a model that is well-explained and easy to understand.
- **ICM Awards (Problem D, E and F)**
- The Leonhard Euler Award is presented to a team selected by the head judge of the ICM's Problem D. The criteria are: 1) a paper in the Meritorious/Finalist/Outstanding rating; 2) contains especially creative and innovative modeling; and 3) shows good understanding of interdisciplinary science. The award honors the name of a 18th-century Swiss applied mathematician, who was known for the breadth of his research applications, volume of written work, excellent teaching, and interdisciplinarity.
- The Rachel Carson Award honors an American conservationist whose book "Silent Spring" initiated the global environmental movement and whose work spanned many disciplines concerned with the local and global environments. This award is presented to a team selected by the Head Judge of ICM Problem E for excellence in using scientific theory and data in its modeling.
- Vilfredo Pareto was an Italian scholar, modeler and problem solver, who at various times was an engineer, sociologist, economist, political scientist, mathematician, and philosopher. He lived and worked in the late 19th and early 20th centuries. The ICM Pareto Award for outstanding modeling in the Policy Modeling problem (ICM Problem F) honors the work and legacy of this famous social science problem solver. In particular for this award, the head judge seeks to highlight a paper that best models the more dynamic and challenging contextual human elements that make simplification or refinement of policy models so difficult.

The Institute for Operations Research and the Management Sciences (INFORMS) is the largest society in the world for professionals in the field of operations research (OR), management science (MS), and analytics. INFORMS has long recognized the importance of involving undergraduate students and faculty in an unscripted process of mathematical modeling whose problems contain many of the modern elements seen by its membership. The MCM/ICM exemplifies these characteristics. Consequently, INFORMS has been an active supporter of the MCM/ICM since its inception.

INFORMS carefully selects and designates a single team from each of the six problems - A, B, C, D, E, F - as an INFORMS winning team whose modeling and analyses best exemplify the style and content reflected in its membership's professional practice. Each student receives a letter of congratulations from the current INFORMS President and a complimentary one-year INFORMS student membership. Each associated faculty advisor receives a letter of congratulations and appreciation from the current INFORMS President, along with complimentary one-year access to the full suite of award-winning INFORMS journals.

Society for Industrial and Applied Mathematics

The Society for Industrial and Applied Mathematics (SIAM) will designate six teams, one each for problems A, B, C, D, E, and F from the MCM/ICM as an SIAM winner.

MATHEMATICAL ASSOCIATION OF AMERICA

The Mathematical Association of America (MAA) will designate up to six teams, at most one each for problems A, B, C, D, E, and F from the MCM/ICM as an MAA winner.

AMERICAN STATISTICAL ASSOCIATION
Promoting the Practice and Profession of Statistics®

The American Statistical Association (ASA) will designate one team from MCM Problem C as a ASA winner.

The American Mathematical Society (AMS) will designate six teams, one each for problems A, B, C, D, E, and F from the MCM/ICM as an AMS winner.

IX. Judging Results and Designations

What are the differences between the designations?

Not Judged - The solution was not submitted correctly. Some examples include damaged or corrupted file, file sent in the wrong format, or not submitting your solution as outlined in the instructions.

Disqualified - The team's report was found to be in violation of the contest rules.

> **Disqualified** - **P** lagiarism: The solution paper had undocumented sources, verbatim text, or information lifted from the Internet, and/or was very similar to other papers submitted as determined by judges and/or our pairwise comparison software. All information, ideas, data, algorithms, etc. from outside sources used by team members must have the original source documented and properly referenced. Our pairwise comparison software identifies papers and/or parts of papers as similar to, or exactly the same as, other papers submitted.
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> **Disqualified** - **W** eb: COMAP identified the solution paper, or portions of the solution paper as shared or posted, or a team member (or members) were found to have received assistance through interactive web sites or electronic media. Posting or sharing all, or any part of the problem statement, your solution, or partial solution anywhere during the contest weekend is strictly prohibited. Obtaining all, or any part, of anyone else's solution is also prohibited. Contest rules prohibit seeking assistance outside of team members or obtaining help from human sources in person or via any medium. COMAP continually monitors the Internet during the contest period.

Unsuccessful Participant - The team's report did not adequately respond to the requirements of the contest problem or a team (or team member) was found to have visited Internet sites discussing the contest problem during the contest period.

> **Unsuccessful Participant** - **W** eb: A team member (or members) visited websites or social media where contest problems were being openly discussed. Contest rules prohibit seeking assistance outside of team members or obtaining help from human sources in person or via any medium. COMAP is continually monitoring the Internet during the contest period to include websites and social media where contest solutions are being openly discussed.
>
> **Unsuccessful Participant** - **I** ncomplete: The solution paper was found to be significantly incomplete and did not show any serious effort in adequately responding to the contest problem or its requirements.

Successful Participant - The team made a concerted effort to respond to the contest problem and submit a solution report. The report, however, had incomplete responses to all or some requirements, and/or showed some deficiencies or weakness in the modeling processes, analysis, conclusions, and/or communication.

Honorable Mention - The team's solution report indicated an above average effort in addressing all problem requirements, and contained elements that were judged to show sound and supported processes in modeling and problem solving, analysis, conclusions, and communication of results.

Meritorious - The team's solution report was excellent in many aspects of modeling and problem solving, analysis, conclusions, and communication. The report addressed all requirements in a clear, well-supported, well-organized, and well-presented manner.

Finalist - The designation Finalist recognizes teams whose solution reports are exemplary and therefore reached the final round of judging. These papers present complete and logical analysis in an organized and clear presentation above and beyond simply addressing the requirements. These papers are easy to read, easy to follow, logical, and comprehensive. Finalist papers are among the best of all team submissions.

Outstanding Winner - The designation Outstanding recognizes teams whose solution reports are determined, in the final round of judging, to be the "best of the best." These teams' reports are at the highest level relative to the contest submissions in terms of exemplary student work in modeling and problem solving, analysis, and communication. COMAP may publish and use all or part of these submissions as examples of outstanding student work.

X. Internship and Scholarship Partners

COMAP is pleased to announce a new partnership with **Anzu Partners**. Anzu Partners is a venture capital and private equity firm that invests in breakthrough industrial technologies and life sciences. Anzu is excited to welcome members of **MCM/ICM** Outstanding and Finalist teams residing in the U.S. for consideration in their Summer Analyst Program. These Summer Analysts will be responsible for both investment team and portfolio support. This is a unique opportunity to gain exposure into venture capital while putting your technical degree to use.

Key activities in investment include:

- Conducting initial screening on potential investments
- Diligence with company, customer, and competitor interviews when appropriate
- Analyzing financial projections and proposed deal terms

Key activities in portfolio support include:

- Building and testing prototypes for entry into new markets
- Analyzing product fit to the target market and any potential adjustments needed
- Developing commercial strategies (e.g. channels, pricing, etc.) for growing companies

The position reports to an Anzu Investment Team member, as part of a small, cross-functional team with strong personal and professional development opportunities.

After the **MCM/ICM** contest results are announced **COMAP** will contact those US teams that meet the requirements with information on how to apply for the paid summer internships. Being selected and notified does not guarantee participation in the program.

Click here to learn more about Anzu Partners

EIT
Ellison Scholars

COMAP is excited to work in collaboration with **Ellison Scholars**, which is part of the **Ellison Institute of Technology (EIT)**. The institute's mission, in partnership with the **University of Oxford**, is to help solve some of humanity's most challenging and important problems. This partnership brings exciting opportunities for students involved in COMAP's mathematical modeling contests, offering a chance to not only showcase their skills but also to join a global mission aimed at tackling some of humanity's most pressing challenges.

Click here to learn more about Ellison Scholars

2σ TWO SIGMA

COMAP is pleased to announce a new partnership with **Two Sigma**. Two Sigma is an investment manager that uses a variety of technological methods, including artificial intelligence, machine learning, and distributed computing, for its trading strategies. Two Sigma is excited to welcome members of **MCM/ICM** Outstanding and Finalist teams for consideration in its internship program. After the MCM/ICM contest results are announced, COMAP will contact those teams that meet the requirements with information on how to apply for a Two Sigma internship. Being selected and notified does not guarantee participation in the program.

Click here to learn more about Two Sigma