# Mathematical Contest in Modeling
# Press Release, April, 1, 1997

COMAP, Inc., with a national panel of judges, is pleased to announce the results of the 13th Annual Mathematical Contest in Modeling (MCM). In addition, The Institute for Operations Research and Industrial and Applied Mathematics (INFORMS), the Society for Industrial and Applied Mathematics (SIAM), and the Mathematical Association of America (MAA), have each chosen one outstanding team for Problems A and B to receive its society's award.

## The Nine Outstanding Winners are:

**Problem A**
Calvin College, Grand Rapids, MI (INFORMS Award Winner)
Harvard University, Cambridge MA (MAA Award Winner)
Pomona College, Claremont, CA
University of Alaska Fairbanks, Fairbanks, AK
Washington University, St. Louis, MO (SIAM Award Winner)

**Problem B**
East China University of Science and Technology, Shanghai, P.R. China
Macalester College, St. Paul, MN (MAA Award Winner)
Rose-Hulman Institute of Technology, Terre Haute, IN (INFORMS Award Winner)
University of Toronto, Toronto, Ontario, Canada (SIAM Award Winner)

The 1997 MCM began at 12:01 A.M. local time on Friday, February 7 and officially ended at 5:00 P.M. local time on Monday, February 10, 1997. During that time, teams of up to three undergraduates were to research and submit an optimal solution for either of two open-ended modeling problems. This year's competition differed from that of other years in that the majority of the teams chose to solve the continuous Problem A, where as in the past, the majority of teams chose the discrete Problem B.

This year's Problem A required participants to help a group of paleontologists model the hunting behavior of the velociraptor. Assuming the velociraptor was a solitary hunter, and then more realistically assuming they hunted in pairs, teams were to design models describing a hunting strategy for various situations and the evasive strategy of a single prey. Each model was to use the specified assumptions and limitations for both velociraptor and prey. This year's Problem B dealt with the belief that large groups stymie productive discussion, but smaller groups run the risk of being controlled by a dominant personality. In an attempt to reduce this danger, the president of a large corporation wants to schedule 29 Board Members to attend an all-day meeting, consisting of three morning sessions broken down into six discussion groups, each to be led by one of six senior officers, and four afternoon sessions broken down into four different discussion groups, with no senior officers involved. The problem called for a list of board-member assignments to attend discussion groups for each of seven sessions with as much mix of the members as possible, assuming the specified criteria were met.

COMAP's Mathematical Contest in Modeling is unique among modeling competitions: it is the only international contest in which students teams work to find a solution. COMAP's educational philosophy is centered around mathematical modeling: using mathematical tools to explore real-world problems. Founded in 1980, COMAP serves the educational community as well as the world of work by preparing students to become better informed–and prepared–citizens.




Administered by The Consortium for Mathematics and Its Applications

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## 1997 MCM Statistics

## 409 teams participated (72.65% of 563 registered teams), representing 224 institutions from 8 countries.

| | | |
|---|---|---|
| 271 U.S. Teams | (representing 170 institutions) | 66.26% |
| 107 P.R. China Teams | (representing 38 institutions) | 26.17% |
| 31 Miscellaneous Teams | | 7.58% |
| Australia (2) | (1 institution) | |
| Canada (15) | (8 institutions) | |
| Hong Kong (2) | (1 institution) | |
| Ireland (8) | (4 institutions) | |
| Lithuania (2) | (1 institution) | |
| South Africa (2) | (1 institution) | |
| 234 A Entries | | 57.22% |
| 175 B Entries | | 42.79% |
| 9 Outstanding | | 2.21% |
| | 5 A Outstanding | |
| | 4 B Outstanding | |
| 62 Meritorious | | 15.16% |
| | 37 A Meritorious | |
| | 25 B Meritorious | |
| 101 Honorable Mention | | 24.7% |
| | 58 A Honorable Mention | |
| | 43 B Honorable Mention | |
| 237 Successful Participant | | 57.95% |
| | 134 A Successful Participant | |
| | 103 B Successful Participant | |
| 379 4-year institutions | | 92.67% |
| 15 2-year institutions | | 3.67% |
| 10 High Schools | | 2.45% |
| 5 Unknown | | 1.23% |

### Gender Statistics

| | | |
|---|---|---|
| 1181 Participants | | |
| 882 Male participants | | 74.69% |
| 299 Female participants | | 25.32% |
| 31 All-Female teams | | 7.58%* |
| | 26, Three-member teams | |
| | 5, Two-member teams | |
| 202 All-Male teams | | 49.39%* |
| | 189, Three-member teams | |
| | 13, Two-member teams | |
| 160 Three-member Co-ed teams | | 39.12%* |
| | 42, 2 Female, 1 Male members | |
| | 118, 1 Female, 2 Male members | |
| 9 Two-member Co-ed teams | | 2.21%* |
| | 1 Female, 1 Male | |
| *These numbers do not total 100%, as some teams did not indicate gender. | | |