

2004 Interdisciplinary Contest in Modeling Press Release—March 22, 2004

COMAP is pleased to announce the results of the 6th annual Interdisciplinary Contest in Modeling (ICM). This year, 143 teams representing institutions from 5 countries participated in the contest. Four teams from the following three institutions were designated as OUTSTANDING WINNERS:

Harvey Mudd College, Claremont, CA (2 teams)
United States Military Academy, West Point, NY
**University of Electronic Science and Technology,
Chengdu, China**

This year's contest ran from Thursday, February 5 to Monday, February 9, 2004. During that time, teams of up to three undergraduate or high school students researched, modeled, and submitted a solution to an open-ended interdisciplinary modeling problem. The 2004 ICM was primarily an online contest. Teams registered, obtained contest materials, and downloaded the problem and data at the prescribed time through COMAP's ICM Website (Problem C of the Mathematical Contest in Modeling).

This year's information technology security problem was particularly challenging. It involved optimizing security measures for academic and business information systems. The problem contained various scenarios to be analyzed, had several challenging requirements needing scientific and mathematical analysis, and also had the ever-present requirements in the ICM to use thorough data analysis, creativity, approximation, precision, and effective communication. One of the authors of

the problem, computer scientist Daniel Ragsdale, was a member of the panel of final judges. The other author was Ron Dodge. The problem originated from their research on the challenges faced by organizations over the security of their networks and information systems. The four Outstanding solution papers will be published in *The UMAP Journal*, along with commentary from the authors and other judges. All 143 of the competing teams are to be congratulated for their excellent work and enthusiasm for scientific and mathematical modeling and interdisciplinary problem solving. This year's judges remarked that the quality of the modeling and presentation in the papers was extremely high, making it difficult to select just four Outstanding papers.

2004 ICM Statistics

- 143 teams participated
 - 4 high school teams (3%)
 - 32 U.S. Teams (22%)
 - 111 Foreign Teams (78%) from Finland, Indonesia, Ireland, and P.R. China.
 - 4 Outstanding Winners (3%)
 - 26 Meritorious Winners (18%)
 - 51 Honorable Mentions (35%)
 - 62 Successful Participants (43%)
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ICM is an extension of COMAP's Mathematical Contest in Modeling (MCM), which is held during the same weekend. ICM is designed to develop and advance interdisciplinary problem-solving skills as well as competence in written communication. The first four interdisciplinary problems involved concepts from mathematics, environmental science, environmental engineering, biology, chemistry, and/or resource management. Last year's ICM problem began a shift to operations research, information science, and interdisciplinary issues in security and safety, which will continue for another year (in the 2005 contest). Each team is expected to have advisors and team members who represent a range of disciplinary interests in applied problem solving and modeling.

To obtain additional information about the ICM and to obtain a complete listing of all team designations, please visit the ICM Website at: www.comap.com/undergraduate/contests/icm, or contact COMAP at: icm@comap.com.

Major start-up funding for the ICM was provided by a grant from the National Science Foundation (through Project INTERMATH) and COMAP. Additional support is provided by the Institute for Operations Research and the Management Sciences (INFORMS). The research that motivated this year's problem was supported by the Office of Artificial Intelligence Analysis and Evaluation at the United States Military Academy. COMAP's Mathematical Contest in Modeling and Interdisciplinary Contest in Modeling are unique among modeling competitions in that they are the only international contests in which students work in teams to find a solution. Centering its educational philosophy on mathematical modeling, COMAP uses mathematical tools to explore real-world problems. It serves the educational community as well as the world of work by preparing students to become better informed—and prepared—citizens, consumers, and workers.



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The National Science Foundation



Administered by
The Consortium for Mathematics
and Its Applications

Contest Directors

Chris Arney, *College of Saint Rose, NY*
Gary Krahn, *United States Military Academy, NY*

Executive Director

Solomon A. Garfunkel, *COMAP, Inc., MA*

Associate Directors

Richard Cassady, *University of Arkansas*
Kathleen Snook, *U.S. Army (retired)*

2004 ICM Contest Results

Control #	Institution	Advisor	Designation	Problem
142	Univ. of Elec. Sci. & Tech.	Du Hongfei	Outstanding Winner	C
426	United States Military Academy	Elizabeth Schott	Outstanding Winner	C
665	Harvey Mudd College	Hank Krieger	Outstanding Winner	C
676	Harvey Mudd College	Jon Jacobsen	Outstanding Winner	C
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85	Sun Yat-Sen University	Qi-Ru Wang	Meritorious Winner	C
100	Peking University	Yulong Liu	Meritorious Winner	C
128	Xidian University	Xinhui Wang	Meritorious Winner	C
132	XiDian University	Ye Ji-Min	Meritorious Winner	C
133	Beijing Univ of Post & Telecommunications	Zuguo He	Meritorious Winner	C
135	Beijing Univ of Post & Telecommunications	Hongxiang Sun	Meritorious Winner	C
157	Montana Tech	Richard Rossi	Meritorious Winner	C
161	Rowan University	Hieu Nguyen	Meritorious Winner	C
169	Peking University Health Science Center	Zhang Xia	Meritorious Winner	C
182	Zhejiang University	Min Ji	Meritorious Winner	C
212	Tianjin University	Zeyi Liu	Meritorious Winner	C
216	Tianjin University	Ximin Rong	Meritorious Winner	C
285	Jilin University	JinYing Liu	Meritorious Winner	C
293	Harbin Institute of Technology Science	Shouting Shang	Meritorious Winner	C
300	Harbin Institute of Technology	Guanghong Jiao	Meritorious Winner	C
324	Tsinghua University	Xi Deng	Meritorious Winner	C
374	Beijing University of Chemical Technology	Xinhua Jiang	Meritorious Winner	C
399	Olin College of Engineering	Burt Tilley	Meritorious Winner	C
405	South China University of Technology	Qin Yongan	Meritorious Winner	C
418	Nanjing Univ of Posts & Telecommunications	Zhenhua Yang	Meritorious Winner	C
505	Shanghai Jiaotong University	Guobiao Zhou	Meritorious Winner	C
546	Carroll College	Kelly Cline	Meritorious Winner	C
620	Univ of Science and Technology of China	Ziyu Zhang	Meritorious Winner	C
621	Univ of Science and Technology of China	Yang Zhang	Meritorious Winner	C
667	Maggie Walker Governor's School	John Barnes	Meritorious Winner	C
705	Asbury College	David Coulliette	Meritorious Winner	C
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16	Northwestern Polytechnical University	Xu Wei	Honorable Mention	C
17	Northwestern Polytechnical University	Xiao Huayong	Honorable Mention	C
32	Shandong University	Shu xiang Huang	Honorable Mention	C
38	Fudan University	Zhijie Cai	Honorable Mention	C
39	Fudan University	Yuan Cao	Honorable Mention	C
47	Anhui University	Mingsheng Chen	Honorable Mention	C
74	City College,Zju	xusheng kang	Honorable Mention	C
75	City College, Zju	xusheng kang	Honorable Mention	C
78	City College, Zju	waibin huang	Honorable Mention	C
105	Jinan University	Daiqiang Hu	Honorable Mention	C
106	Jinan University	Suohai Fan	Honorable Mention	C
116	East China University of Science and Tech	Su Chunjie	Honorable Mention	C
120	East China University of Science and Tech	Sun Jun	Honorable Mention	C
121	School of Mathematical Sciences	Yang jiazhong	Honorable Mention	C
141	Univ. of Elec. Sci. & Tech.	Zhang Yong	Honorable Mention	C

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167	Beijing Institute of Technology	Cui Xiaodi	Honorable Mention	C
168	Peking University Health Science Center	Zhang Xia	Honorable Mention	C
179	Zhejiang University	Zhiyi Tan	Honorable Mention	C
181	Zhejiang University, College of Science	Min Ji	Honorable Mention	C
261	Harbin University of Science and Technology	Dongmei Li	Honorable Mention	C
275	Dalian University of Technology	Lizhong zhao	Honorable Mention	C
281	Jilin University	Yongchen Pei	Honorable Mention	C
299	Harbin Institute of Technology	Guanghong Jiao	Honorable Mention	C
315	Chongqing University	Yang Xiaofan	Honorable Mention	C
316	Chongqing University	Wu Kaigui	Honorable Mention	C
323	Tsinghua University	Hongxuan Huang	Honorable Mention	C
329	Beijing Jiaotong University	Guochen Feng	Honorable Mention	C
331	Beijing Jiaotong University	Xiaoxia Wang	Honorable Mention	C
373	Beijing University of Chemical Technology	Yan Cheng	Honorable Mention	C
386	Harbin Engineering University	Zhenbin Gao	Honorable Mention	C
404	South China University of Technology	Liang Manfa	Honorable Mention	C
444	Hangzhou University of Commerce	Zhu Ling	Honorable Mention	C
445	Hangzhou University of Commerce	Zhu Ling	Honorable Mention	C
446	Peking University	Maozheng Guo	Honorable Mention	C
466	Institut Teknologi Bandung	sapto indratno	Honorable Mention	C
487	Tsinghua University	Qi-yuan Jiang	Honorable Mention	C
503	Shanghai Jiaotong University	Jianguo Huang	Honorable Mention	C
524	Carroll College	Holly Zullo	Honorable Mention	C
555	Carroll College	Mark Parker	Honorable Mention	C
557	Institut Teknologi Bandung	Edy Soewono	Honorable Mention	C
579	Villa Julie College	Eileen McGraw	Honorable Mention	C
608	Harbin University of Science and Technology	Guangyue Tian	Honorable Mention	C
636	Mathematical High School of Helsinki	Johannes Kärkkäinen	Honorable Mention	C
668	Maggie Walker Governor's School	John Barnes	Honorable Mention	C
678	Harvey Mudd College	Art Benjamin	Honorable Mention	C
679	Youngstown State University	Michael Crescimanno	Honorable Mention	C
702	Asbury College	David Coulliette	Honorable Mention	C
723	Nanjing University of Science & Technology	Pinling Wang	Honorable Mention	C
726	Nanjing University of Science & Technology	Peixin Chen	Honorable Mention	C
742	Jilin Univerisity	Yang Guang	Honorable Mention	C
772	Monmouth College	Michael Kroupa	Honorable Mention	C

15	Northwestern Polytechnical University	Zhao Xuanmin	Successful Participant	C
20	Northwester Polytechnical University	Lu Quanyi	Successful Participant	C
67	Southeast University	Li-yan Wang	Successful Participant	C
68	Southeast University	Hai-yan Cao	Successful Participant	C
69	Southeast University	Zhi-zhong Sun	Successful Participant	C
83	Sun Yat-Sen University	ZePeng Chen	Successful Participant	C
86	Sun Yat-Sen University	Yun Bao	Successful Participant	C
89	Beijing University of Technology	Yi Xue	Successful Participant	C
99	Peking University	Yulong Liu	Successful Participant	C
111	Jinan University	Shiqi Ye	Successful Participant	C
137	Beijing Univof Posts & Telecommunications	Jinkou Ding	Successful Participant	C

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140	Univ. of Elec. Sci. & Tech.	qin siyi	Successful Participant	C
162	Beijing Institute of Technology	Li Bingzhao	Successful Participant	C
186	University College Dublin	Rachel Quinlan	Successful Participant	C
222	Concordia College - New York	Daniel Burroughs	Successful Participant	C
235	Nankai University	Wenhua Hou	Successful Participant	C
266	Harbin University of Science and Technology	Guangyue Tian	Successful Participant	C
273	Dalian University of Technology	Mingfeng He	Successful Participant	C
277	Dalian University of Technology	Yi Wang	Successful Participant	C
283	Jilin University	Chunling Cao	Successful Participant	C
290	US Military Academy	Michael Smith	Successful Participant	C
309	Chongqing University	Yang Dadi	Successful Participant	C
314	Chongqing University	Liu Qionsun	Successful Participant	C
322	Tsinghua University	Mei Lu	Successful Participant	C
327	Nanjing Univ of Posts & Telecommunications	ZhongHua Qiu	Successful Participant	C
328	Beijing Jiaotong University	Xiaoxia Wang	Successful Participant	C
330	Beijing Jiaotong Univ School of Science	Guochen Feng	Successful Participant	C
333	Beijing Jiaotong University	Minghui Liu	Successful Participant	C
335	School of Science, Beijing Jiaotong Univ	Bing Tuan	Successful Participant	C
350	Statistics College of Hangzhou University	Zhao Heng	Successful Participant	C
360	Harbin Normal University	Huanping Liu	Successful Participant	C
363	Harbin Normal University	Weiliang Zeng	Successful Participant	C
371	Beijing University of Chemical Technology	Xiaoding Shi	Successful Participant	C
402	South China University of Technology	Tao Zhisui	Successful Participant	C
424	Luther College	Eric Westlund	Successful Participant	C
427	Ohio Wesleyan University	Richard Linder	Successful Participant	C
429	United States Military Academy	Sakura Therrien	Successful Participant	C
465	Hangzhou University of Commerce	heng ZHAO	Successful Participant	C
491	Nanjing Univ of Posts & Telecommunications	Xinxu Li	Successful Participant	C
512	Hefei University of Technology	Chaowei Bao	Successful Participant	C
513	Northeast Agricultural University	yan tang	Successful Participant	C
514	Hefei University of Technology	Xiaojing Ding	Successful Participant	C
516	Hefei University of Technology	Liu Yang	Successful Participant	C
517	Northeast Agricultural University	FangGe Li	Successful Participant	C
596	University of Colorado at Denver	William Briggs	Successful Participant	C
607	Institut Teknologi Bandung	Kuntjoro Sidarto	Successful Participant	C
616	Simpson College	Jeffrey Parmelee	Successful Participant	C
617	Simpson College	Jeffrey Parmelee	Successful Participant	C
637	Mathematical High School of Helsinki	Johannes Kärkkäinen	Successful Participant	C
649	North Carolina State University (NCSU)	Jeffrey Scroggs	Successful Participant	C
652	Paivola College	Merikki Lappi	Successful Participant	C
653	Paivola College	Merikki Lappi	Successful Participant	C
675	Youngstown State University	George Yates	Successful Participant	C
677	Youngstown State University	George Yates	Successful Participant	C
684	Western Carolina University	Erin McNelis	Successful Participant	C
699	Asbury College	Ken Rietz	Successful Participant	C
711	Sierra Nevada College	Christopher Damm	Successful Participant	C
725	Nanjing University of Science & Technology	Zhengyou Huang	Successful Participant	C
732	Wuhan University of Technology	Li Yuguang	Successful Participant	C
733	Wuhan University of Technology	Huang wei	Successful Participant	C

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Control #	Institution	Advisor	Designation	Problem
734	College of Informantion Eng,Dalian University	Changjun Zhang	Successful Participant	C
736	Greenville College	George Peters	Successful Participant	C