

## 2005 Interdisciplinary Contest in Modeling Press Release—March 11, 2005

COMAP is pleased to announce the results of the 7th annual Interdisciplinary Contest in Modeling (ICM). This year, 164 teams representing institutions from 4 countries participated in the contest. Three teams from the following institutions were designated as OUTSTANDING WINNERS:

**Olin College of Engineering, Needham, MA**  
**East China University of Science and Technology,  
Shanghai City, China**  
**Maggie Walker Governor's School, Richmond, VA**

This year's contest ran from Thursday, February 3 to Monday, February 7, 2005. During that time, teams of up to three undergraduate or high school students researched, analyzed, modeled, and communicated a solution to an open-ended interdisciplinary modeling problem. The 2005 ICM was primarily an on-line contest, where teams registered, obtained contest materials, and downloaded the problem statement at the prescribed time through COMAP's ICM Website.

This year's nonrenewable resource problem was particularly challenging. It required teams to select a nonrenewable or exhaustible resource and model its depletion over time. The problem contained issues such as economic, demographic, political, environmental, security, and future technology 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. The authors of the problem were Paul

Campbell, editor of *The UMAP Journal* and Professor of Mathematics and Computer Science at Beloit College, and geoscientist and civil engineer Ted Hromadka, who served on the panel of final judges. The problem originated from their research and interest in resource management. The three Outstanding solution papers will be published in *The UMAP Journal*, along with commentary from both Dr. Campbell and Dr. Hromadka. All the members of the 164 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 despite the challenging problem, the quality of the modeling, analysis, and presentation was high.

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### 2005 ICM Statistics

- 164 teams participated
  - 3 high school teams (1%)
  - 33 U.S. Teams (20%)
  - 131 Foreign Teams (80%) from Finland, Indonesia, and P.R. China.
  - 3 Outstanding Winners (2%)
  - 26 Meritorious Winners (16%)
  - 89 Honorable Mentions (54%)
  - 46 Successful Participants (28%)
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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 environmental science, environmental engineering, biology, chemistry, and/or resource management. The last three ICM problems involved operations research, information science, environmental science, and interdisciplinary issues in security and safety. Each team is expected to have advisors and team members who represent a range of disciplinary interests in applied problem solving and modeling. Next year, the ICM problem will involve modeling in the area of public health.

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](http://www.comap.com/undergraduate/contests/icm)

*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). 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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Administered by  
The Consortium for Mathematics  
and Its Applications

#### Contest Directors

Chris Arney, *U. S. Army Research Office, NC*  
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)*

**2005 ICM Contest Results**

<b>Control #</b>	<b>Institution</b>	<b>Advisor</b>	<b>Designation</b>	<b>Problem</b>
321	East China University of Science and Tech.	Ni Zhongxin	Outstanding Winner	C
561	Olin College of Engineering	Burt Tilley	Outstanding Winner	INFORMS Award C
723	Maggie Walker Governor's School	John Barnes	Outstanding Winner	C
61	Ningbo Institute of Technology, Zhejiang	Jufeng Wang	Meritorious Winner	C
72	Peking University	Yulong Liu	Meritorious Winner	C
73	Peking University	Yulong Liu	Meritorious Winner	C
86	Xidian University	Xiaogang QI	Meritorious Winner	C
100	Nanjing University of Post and	LiWei Xu	Meritorious Winner	C
104	School of Mathematical Sciences,PKU	Huang Hai	Meritorious Winner	C
177	Sun Yat-Sen University	Qi-Ru Wang	Meritorious Winner	C
232	Central University of Finance and Economics	Weihong Yu	Meritorious Winner	C
236	Dalian Nationalities University	Xiangdong Liu	Meritorious Winner	C
243	Wuhan University,China	Zhong Liuyi	Meritorious Winner	C
310	Beijing Language and Culture University	Rou Song	Meritorious Winner	C
312	Shandong University	Jianhua Ma	Meritorious Winner	C
317	East China University of Science and	Lu Yuanhong	Meritorious Winner	C
378	Jinan University	Daiqiang Hu	Meritorious Winner	C
394	Dalian Maritime University	Guoyan Chen	Meritorious Winner	C
454	United States Military Academy	Michael Smith	Meritorious Winner	C
526	zhejiang university city college	xusheng kang	Meritorious Winner	C
533	Zhejiang university city college	Waibin Huang	Meritorious Winner	C
546	Dalian University of Technology	Mingfeng He	Meritorious Winner	C
567	National University of Defense Technology	Mengda Wu	Meritorious Winner	C
621	Shandong University	Baodong Liu	Meritorious Winner	C
724	Maggie Walker Governor's School	John Barnes	Meritorious Winner	C
735	Paivola college	Esa Lappi	Meritorious Winner	C
749	United States Military Academy	Bart Stewart	Meritorious Winner	C
764	University of Virginia	Robert Hirosky	Meritorious Winner	C
830	University of Science and Technology of China	Qiang Meng	Meritorious Winner	C
5	Fudan University	Yuan Cao	Honorable Mention	C
7	Fudan University	Zhijie Cai	Honorable Mention	C
10	Southeast University	Enshui Chen	Honorable Mention	C
14	Southeast University	Feng Wang	Honorable Mention	C
25	Beijing University of technology	Yi Xue	Honorable Mention	C
28	Beijing University of Technology	Yu Chang	Honorable Mention	C
44	Northwestern Polytechnical University	Lv Quanyi	Honorable Mention	C
51	University of Washington	Sandor Kovacs	Honorable Mention	C
52	University of Washington	Sandor Kovacs	Honorable Mention	C
71	Peking University	Ming Wang	Honorable Mention	C
83	Xidian University	Shuisheng Zhou	Honorable Mention	C
87	Xidian University	Hailin Feng	Honorable Mention	C
91	School of Earth and Space Science, Peking	Chuxiong Liu	Honorable Mention	C
98	Nanjing University of Post and	LiWei Xu	Honorable Mention	C
111	Beijing University of Chemical Technology	Hui Liu	Honorable Mention	C
113	Beijing University of Chemical Technology	Jinyang Huang	Honorable Mention	C

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133	University of Washington	Sara Billey	Honorable Mention	C
145	Xi'an Jiaotong University	Yonghong Dai	Honorable Mention	C
150	Beijing University of Posts and	Jinkou Ding	Honorable Mention	C
152	School of Science, Beijing University of Posts	Hongxiang Sun	Honorable Mention	C
155	Beijing University of Posts and	Yunfeng Wu	Honorable Mention	C
157	Beijing University of Posts and	Wenbo Zhang	Honorable Mention	C
179	Sun Yat-sen	Cai Wei Li	Honorable Mention	C
181	University of Electronic Science and	Zhang Yong	Honorable Mention	C
185	University of Electronic Science and	Du Hongfei	Honorable Mention	
186	University of Electronic Science and	Du Hongfei	Honorable Mention	C
201	James Madison University	David Walton	Honorable Mention	C
203	Harbin University of Science and Technology	Shuzhong Wang	Honorable Mention	C
213	Institute of University Students' Innovation,	Mingfeng He	Honorable Mention	C
214	Institute of University Students' Innovation,	Mingfeng He	Honorable Mention	C
224	Dalian University of Technology	Yi Wang	Honorable Mention	C
228	School of Software of Dalian University of	Changliang Yu	Honorable Mention	C
252	Wuhan University	Dichen Liu	Honorable Mention	C
254	Harbin Engineering University	ZhenBin Gao	Honorable Mention	C
255	Harbin Engineering University	XiaoWei Zhang	Honorable Mention	C
258	Harbin Engineering University	Fei Yu	Honorable Mention	C
261	Harbin Engineering University	JiHong Shen	Honorable Mention	C
265	Central South University	Hou Muzhou	Honorable Mention	C
267	Central South University	Hou Muzhou	Honorable Mention	C
306	Harbin Institute of Technology	Yunfei Zhang	Honorable Mention	C
339	University of Colorado at Colorado Springs	Radu Cascaval	Honorable Mention	C
365	Jilin University	Chunling Cao	Honorable Mention	C
388	Dalian University	Jiatai Gang	Honorable Mention	C
390	Dalian University	Yanchun Wang	Honorable Mention	C
409	Chongqing University	Qu Gong	Honorable Mention	C
427	Institut Teknologi Bandung	Agus Gunawan	Honorable Mention	C
434	Zhejiang University	Yiwei Jiang	Honorable Mention	C
435	Chu Kechen Honors College, ZJU	Jian Wu	Honorable Mention	C
444	School of Science, Beijing Jiaotong University	Liwei Ren	Honorable Mention	C
457	Tianjin University	Dan Lin	Honorable Mention	C
458	Tianjin University	Zhanjie Song	Honorable Mention	C
468	China University of Mining and Technology	Zhou Shengwu	Honorable Mention	C
469	Beijing Institute of Technology	li bingzhao	Honorable Mention	C
471	Beijing Institute of Technology	chen yihong	Honorable Mention	C
472	Hefei University of Technology	Chaowei Bao	Honorable Mention	C
489	Hefei University of Technology	Weizhong Liang	Honorable Mention	C
490	Hefei University of Technology	Kun Gong	Honorable Mention	C
505	Tsinghua University	Ye jun	Honorable Mention	C
518	Northeast Agricultural University	yan tang	Honorable Mention	C
531	Zhejiang university city college	Gui Wang	Honorable Mention	C
554	North University of China	Lei Yingjie	Honorable Mention	C
559	South China University of Technology	Liang Man Fa	Honorable Mention	C
569	National University of Defense Technology	Mengda Wu	Honorable Mention	C
576	California State University at Monterey Bay	Hongde Hu	Honorable Mention	C
593	Earlham College	Charlie Peck	Honorable Mention	C

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601	Harbin University of Science and Technology	Dongmei Li	Honorable Mention	C
602	Donghua University	Biao Ma	Honorable Mention	C
607	Donghua University	Yu-fang Ma	Honorable Mention	C
619	Simpson College	James Bohy	Honorable Mention	C
623	Nanjing University of Sci. & Tech.	Haifei Zhang	Honorable Mention	C
633	Peking University Health Science Center	Shu Xue	Honorable Mention	C
634	Chongqing University	Zhiliang Li	Honorable Mention	C
641	Hunan University	Xiaopei Li	Honorable Mention	C
647	Peking University Health Science Center	Shu Xue	Honorable Mention	
707	Shanghai Jiao Tong University	Baorui Song	Honorable Mention	C
725	Maggie Walker Governor's School	Martha Hicks	Honorable Mention	C
734	Paivola college	Esa Lappi	Honorable Mention	C
758	Youngstown State University	George Yates	Honorable Mention	C
759	Youngstown State University	George Yates	Honorable Mention	C
781	Carroll College	Mark Parker	Honorable Mention	C
783	Duke University	David Kraines	Honorable Mention	C
804	Asbury College	David Coulliette	Honorable Mention	C
809	Asbury College	Kenneth Rietz	Honorable Mention	C
811	Asbury College	Duk Lee	Honorable Mention	C
815	University of Colorado-Denver	Lynn Bennethum	Honorable Mention	C
826	University of Science and Technology of China	Yezeng Cheng	Honorable Mention	C
831	University of Science and Technology of China	Huiwen Wang	Honorable Mention	C
835	Regis University	Jim Seibert	Honorable Mention	C
843	Harvey Mudd College	Hank Krieger	Honorable Mention	C
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13	Southeast University	Feng Wang	Successful Participant	C
22	BeiHang University	Sanxing Wu	Successful Participant	C
60	Ningbo Institute of Technology, Zhejiang	Zhening Li	Successful Participant	C
62	Ningbo Institute of Technology, Zhejiang	Jufeng Wang	Successful Participant	C
92	Anhui University	Wang Jian	Successful Participant	C
115	Beijing University of Chemical Technology	Yan Cheng	Successful Participant	C
143	Xi'an Jiaotong University	Yicang Zhou	Successful Participant	C
178	Sun Yat-sen University	Yun Bao	Successful Participant	C
184	Beijing University of Technology	Xue Yi	Successful Participant	C
207	Harbin University of Science and Technology	Dongyan Chen	Successful Participant	C
218	Institute of University Students' Innovation,	Qihui Pan	Successful Participant	C
230	School of Software of Dalian University of	Changliang Yu	Successful Participant	C
240	Dalian Nationalities University	Hengbo Zhang	Successful Participant	C
241	Dalian Nationalities University	Rendong Ge	Successful Participant	C
253	Harbin Engineering University	ZhenBin Gao	Successful Participant	C
260	Harbin Engineering University	Tao Yu	Successful Participant	C
262	South-China Normal University	wang henggeng	Successful Participant	C
279	School of Science,Beijing Jiaotong University	Xiaoxia Wang	Successful Participant	C
283	School of Science,Beijing Jiaotong University	Guochen Feng	Successful Participant	C
307	Harbin Institute of Technology	Yunfei Zhang	Successful Participant	C
342	Jilin University	Qingdao Huang	Successful Participant	C
347	Jilin University	Ji Youqing	Successful Participant	C
379	Jinan University	Suohai Fan	Successful Participant	C

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382	Jinan University	Chuanlin Zhang	Successful Participant	C
396	Academy of Science	Shi Guosheng	Successful Participant	C
426	Institut Teknologi Bandung	Edy Soewono	Successful Participant	C
430	Zhejiang University	Qifan Yang	Successful Participant	C
432	Zhejiang University	Zhiyi Tan	Successful Participant	C
470	Beijing Institute of Technology	li bingzhao	Successful Participant	C
509	Tsinghua University	Xie jinxing	Successful Participant	C
512	School of Science, Tsinghua University	Huang hongxuan	Successful Participant	C
544	South China University of Technology	Tao Zhi Sui	Successful Participant	
545	South China University of Technology	Pan Shao Hua	Successful Participant	C
570	Clarion University of Pennsylvania	John Heard	Successful Participant	C
574	California State University, Monterey Bay	Jeffrey Groah	Successful Participant	C
589	Clarion University of Pennsylvania	Curt Foltz	Successful Participant	C
624	Nanjing University of Sci. & Tech.	Zhenyou Huang	Successful Participant	C
651	Zhejiang Gongshang University	Zhu Ling	Successful Participant	C
652	Zhejiang Gongshang University	Zhu Ling	Successful Participant	C
654	Zhejiang Gongshang University	Zhao Heng	Successful Participant	C
684	Midlands Technical College	Richard Bailey	Successful Participant	C
726	Thomas More College	Steven Lameier	Successful Participant	C
751	Villa Julie College	Eileen McGraw	Successful Participant	C
761	Youngstown State University	Scott Martin	Successful Participant	C
779	Carroll College	Mark Parker	Successful Participant	C
793	Paivola College	Jukka Ilmonen	Successful Participant	C