

PETITION FOR SOCIETY STATUS FOR THE INFORMS COMPUTER SCIENCE TECHNICAL SECTION

This petition requests that the status of the INFORMS Computer Science Technical Section (CSTS) be changed to that of a society, named the INFORMS Computing Society. CSTS believes that this recognition of the group's maturity and stature will result in measurable benefits for both its membership and INFORMS as a whole. Presented below is evidence of the section's maturity and a discussion of the anticipated advantages of, and changes that would result from, its evolution into an INFORMS society.

1. COMPUTER SCIENCE TECHNICAL SECTION'S HISTORICAL RECORD

CSTS has been a large and active subdivision throughout its 21-year lifetime, beginning as a Section of the Operations Research Society of America (ORSA). The following subsections describe the group's purpose, document many of its activities, and demonstrate its long-standing stability and maturity.

1.1 PURPOSE OF THE SECTION (FROM THE CSTS BYLAWS)

Operations research and the management sciences (OR/MS) have always stood in close relation to computer science and artificial intelligence (CS/AI). Not only are the ideas and techniques of one highly relevant to the other, but their cross-fertilization has spawned creative research. However, because OR/MS and CS/AI have developed different and largely separate professional cultures, interaction does not always happen naturally and requires encouragement.

The purpose of CSTS, then, is twofold: a) to help keep INFORMS members abreast of useful developments in CS/AI, and b) to contribute to the vigor of research and practice in the INFORMS community by encouraging activity on the interface of OR/MS and CS/AI.

1.2 MEMBERSHIP AND FINANCIAL RECORD

From its inception in 1976, the CSTS membership numbers have been strong and the organization has been financially viable. Peaking in size in 1996 following its absorption of the Microcomputing Section, CSTS has long been among the half-dozen largest INFORMS subdivisions (see Figure 1).

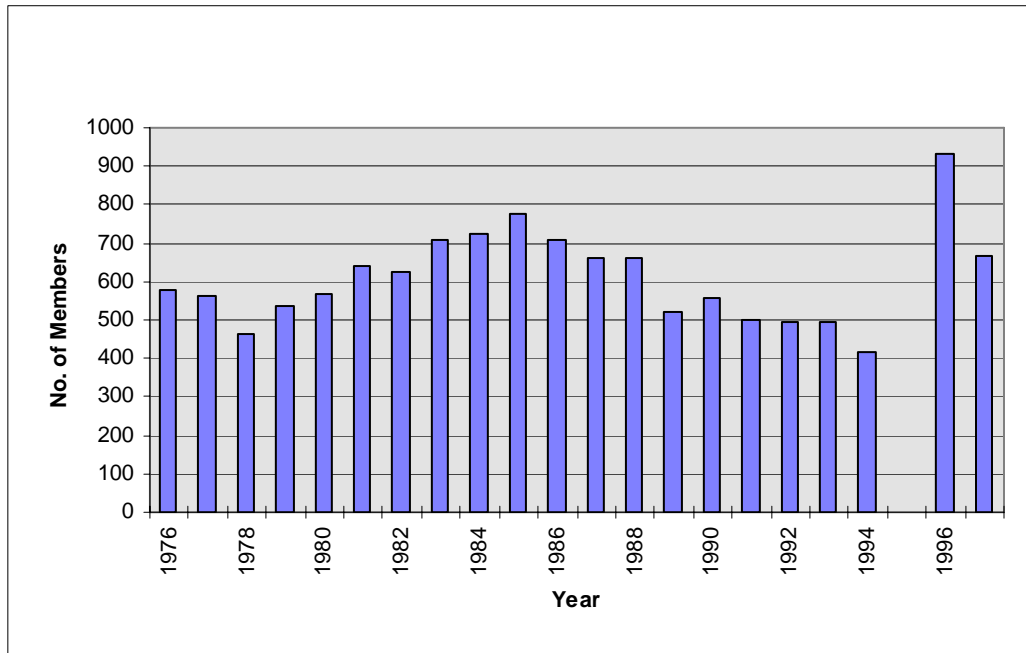


Figure 1. CSTS Membership

Similarly, its financial record has been one of stability and “black ink,” while providing a variety of services and activities for its membership. Table 1 provides CSTS end-of-year cash account balances for the last five available periods.

Date	INFORMS CSTS Account Balance
12/31/93	\$12,125
12/31/94	7,682
12/31/95	16,600
12/31/96	17,455
3/31/97 (most recent avail)	18,308

Table 1. CSTS Cash Account Balance

1.3 CSTS ACTIVITIES

The Section’s activities include regularly scheduled conferences, a semi-annual newsletter, support for the *INFORMS Journal on Computing*, an annual prize competition, a book series, Internet resources, and active participation in INFORMS’ national meetings. More detailed descriptions of these member services and events follow.

1.3.1. BIENNIAL CONFERENCES

There have been six CSTS conferences, with the first meeting held in 1985 in Denver with 96 attendees. The three following meetings were held in Williamsburg, Virginia, in 1989, 1992, and 1994, attended by 153, 135, and 135 persons, respectively. The 1996 conference was in Dallas, Texas, with 132 attendees (see <http://www.seas.smu.edu/csts.html>) and the most recent meeting was held near Monterey, California in January, 1998 (see <http://www.gsm.ucdavis.edu/~woodruff/csts.html>). All of these small, focused conferences were profitable.

1.3.2 BOOK SERIES

Associated with each of the CSTS meetings is a hardback book containing selected papers that were presented at the conference. In order that they not be viewed as proceedings, each of these volumes has been refereed. The review standards have increased with each iteration, and the quality of papers published in recent volumes rivals that of many journals. The volume titles are given below (see <http://www.smu.edu/~barr/csts> for individual volume details).

- Gass, S., H. Greenberg, K. Hoffman, R. Langley, eds. 1985. *Impacts of Microcomputers on Operations Research*, North-Holland, New York.
- Sharda, R., B. Golden, E. Wasil, O. Balci, W. Stewart, eds. 1989. *Impacts of Recent Computer Advances on Operations Research*, North-Holland, New York.
- Sharda, R., O. Balci, and S. Zenios, eds., 1992. *Computer Science and Operations Research: New Developments in their Interfaces*, Pergamon Press, Oxford.
- Sofer, A., and S. Nash, eds., 1994. *The Impact of Emerging Technology On Computer Science and Operations Research*, Kluwer Academic Publishers, Boston.
- Barr, R., R. Helgason, and J. Kennington, eds., 1996. *Interfaces in Computer Science and Operations Research: Advances in Metaheuristics, Optimization, and Stochastic Modeling Technologies*, Kluwer Academic Publishers, Boston.
- Woodruff, D., ed., 1997. *Advances in Computational and Stochastic Optimization, Logic Programming, and Heuristic Search*, Kluwer Academic Publishers, Boston.

1.3.3 JOURNAL ON COMPUTING

The *ORSA Journal on Computing* was initiated by CSTS members in 1989 to publish high-quality research papers from the interface of operations research and computer science. Renamed the *INFORMS Journal on Computing* (JOC) following the ORSA/TIMS merger, the JOC has completed nine volumes of four issues each. The journal is operating in the black and regularly includes not only contributed papers, but state-of-the-art surveys, invited feature articles with accompanying critiques by noted specialists, and special-topic issues. CSTS members have always edited the JOC and the section has a special pride in, and ongoing concern for the welfare of, this publication.

1.3.4 CSTS NEWSLETTER

CSTS publishes its own INFORMS Computer Science Technical Section Newsletter, now in its 18th volume (see attached example). Two issues are distributed annually to the membership, both in hard copy and in electronic form over the Internet. The electronic PDF version provides live links to online references, related sites, and email addresses of authors and section officers (available from <http://www.math.clemson.edu/INFORMS/CSTS>).

The name of this publication belies the quality of articles that have regularly appeared therein. Besides announcements of interest to section members, each issue features research and application articles. Recent contributors include Fred Glover (U Colorado), John Hooker (CMU), Robert Fourer (Northwestern), and Harlan Crowder (IBM).

1.3.5 CSTS PRIZE

Since 1986, CSTS has presented an annual prize for the best publication(s) related to the OR/CS interface. The objectives are to promote the development of high-quality work, to publicize and reward the contribution of those who have advanced the state of the art, and to increase the visibility of excellent work in the field.

Past CSTS prize recipients are:

- Harvey Greenberg, 1986;
- Fred Glover, Darwin Klingman, and Marcel Neuts, 1987;
- Alex Meeraus, 1988;
- John Hooker, 1991;
- Irvin Lustig, Roy Marsten, Nimrod Megiddo, David Shanno, 1992;
- Robert Fourer, David Gay, Brian Kernighan, 1993;
- Fred Glover, 1994;
- John Forrest, Donald Goldfarb, 1995;
- Warren Adams, Hanif Sherali, 1996; and
- Dimitri Bertsekas and John Tsitsiklis, 1997.

1.3.6 INFORMS MEETING PARTICIPATION

CSTS is a regular and active participant in organizing sessions for the national INFORMS meetings. The members organize one or two tracks of sessions on computing-related topics, including a ongoing series of software demonstrations and applications case studies.

1.3.7 CSTS INTERNET PRESENCE

The section maintains a full-featured Internet home page (<http://www.math.clemson.edu/INFORMS/CSTS>), which includes a description of the section, online bylaws and officer lists, lists and email addresses of members, and links to related sites, including the home pages for individual CSTS conferences. The section also maintains two LISTSERVs: ORCS-L, for exchanges of technical information among subscribers, and INFORMS-CSTS, which permits members to broadcast an email message to all members with electronic addresses.

1.3.8 CSTS OFFICERS AND COMMITTEES

These activities and member services are the results of contributions from a large number of individuals. Organizationally, CSTS is composed of the following officers and positions (terms of office and current office-holders are listed):

<i>Position</i>	<i>Term of Office</i>	<i>Current</i>
Chair	One year	Richard S. Barr (SMU)
Vice-Chair/Chair-Elect	One year	Harlan Crowder (IBM)
Secretary/Treasurer	One year	Bjarni Kristanjanssen (Maximal Software)

Board of Directors (6)	Six years (two rotate off each year)	Andrew Boyd (Texas A&M), Christopher Jones (U. Washington), Barin Nag (Towson State), Matthew Saltzman (Clemson), William Scherer (U. Virginia), Carol Tretkoff (CUNY, ILOG)
Prize Committee Chair	One year	Anna Nagurney (U. Mass. Amherst)
Prize Committee Members	One year	Panos Pardalos (U. Florida), John Tsitsiklis (MIT), Hanif Serali (VPI & SU)
Newsletter Editor(s)	Unspecified	Tom Wiggins (U. N. Dakota) and S. Raghavan (US West)
Associate Editors	Unspecified	Andrew Boyd (Texas A&M), Ramayya Krishnan (CMU), John Hooker (CMU)
Conference Chair(s)	Two years	David Woodruff (U California Davis), 1998; Manuel Laguna (U. Colorado Boulder) and Jose Luis Gonzalez (Monterey Tech), 2000

Other members maintain the Sections' Web pages (Matt Saltzman, Ramesh Sharda), write articles for the newsletter, organize sessions for INFORMS and CSTS meetings, serve on advisory committees, chair and serve on conference program committees, and solicit and organize exhibitors.

All of these volunteer positions are typically filled with new occupants as terms expire, although (thankfully) secretary-treasurers and editors serve multiple or extended terms. CSTS is fortunate to have had such an active and contributing membership over its lifetime.

2. SOCIETY STATUS: NEEDS ADDRESSED AND OPPORTUNITIES CREATED

Even with its strong track record within ORSA and INFORMS, the Computer Science Technical Section needs better name recognition in order to attract new members, especially those that are not currently members of INFORMS. Clearly it is more prestigious to be associated with a society than with a section. The section designation may imply to some that the organization is small, and possibly non-professional. Individuals are more likely to list on their vitas membership in a society than section membership.

“The INFORMS Computing Society” has the name appeal that will not only draw the attention of OR/MS professionals, but computer science and scientific computing communities as well. We believe that this designation will broaden our attractiveness for outreach programs that can also leverage the widespread interest in the problems and technological focus of the group and its members (e.g., heuristic algorithms, computational optimization, artificial intelligence in neural networks and intelligent agents, logic and constraint programming, stochastic models, computational probability, data mining, and visualization, to name a few).

The INFORMS Computing Society will recognize the development of the *CSTS Newsletter* by renaming it the *INFORMS Computing Society Communications*. This will better reflect the nature of its contents, which includes a mix of archival articles and documentation of member activities.

One model we see for our long-term development is the IEEE Computer Society, which has grown from a subdivision of the Institute for Electrical and Electronic Engineers into “the largest organization of computing professionals in the world” (*Strategic Plan for the IEEE Computer Society*, 1994). They have established their own commercial press (publishing 17 periodicals and over 100 conference proceedings per year), standards and technical committees, online digital library and bookstore, and educational program (see <http://www.computer.org>). If the INFORMS Computing Society realizes only a fraction of these possibilities, it would not only magnify its presence within the Institute, but would have a vital role in increasing the visibility and recognition of INFORMS as a whole.

3. SUMMARY

The record of CSTS is strong and it is appropriate that the section’s accomplishments be recognized and rewarded with the designation of society status. If granted, the INFORMS Computer Society anticipates celebrating the occasion with publicity and initiatives to increase our membership and visibility, not only within the Institute, but in related disciplines and other organizations. We appreciate your consideration of this petition.

Prepared and submitted by:

Richard S. Barr, Chair
INFORMS Computer Science Technical Section

SUPPORTING DOCUMENTS

INFORMS SUBDIVISION STATISTICS (LATEST AVAILABLE TO AUTHOR)

1996 ACTIVITY REPORT

FALL, 1997 CSTS NEWSLETTER

FINAL PROGRAM, 1996 CONFERENCE