



THE INSTITUTE OF
MANAGEMENT SCIENCES

Newsletter of the TIMS

College on Simulation

Dave Goldsman and Jim Swain, Editors

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Contents

1	TIMS College on Simulation Officers	1
2	President's Message	2
3	<i>Management Science</i> Editorial Policy on Simulation	3
4	Winter Simulation Conference Notes	4
5	Minutes of the College	5
6	Abstracts of Papers	9
7	Event Calendar	11
8	Announcements	12
9	Editors' Corner	13
10	Logo Selection	15

TIMS College on Simulation Officers

President James R. Wilson, School of Industrial Engineering, Purdue University, West Lafayette, IN 47907, (317)494-5408, wilsonj@yellow.ecn.purdue.edu

Vice-President/President-Elect W. David Kelton, Dept. of Mgmt. Sciences, Univ. of Minnesota, Minneapolis, MN 55455, (612)624-8503, dkelton@umnacvx.bitnet

Secretary-Treasurer Barry L. Nelson, Dept. of ISE, The Ohio State Univ., Columbus, OH 43210, (614)292-0610, nelson-b@eng.ohio-state.edu

Newsletter Co-Editors Dave Goldsman and James Swain, School of ISyE, Georgia Institute of Technology, Atlanta, GA 30332, (404) 894-2365 and (404)894-3025, dgoldsm@gtri01.bitnet and jswain@gtri01.bitnet

President's Message

In this issue of the *Newsletter*, we have included a new statement of editorial policy for the Simulation Department of *Management Science* which should appear in the May 1989 issue of that journal. The preparation of this statement has provoked considerable discussion about the opportunities and challenges facing the Simulation Department, and I want to elaborate on some of these issues in this Message. Admittedly this may be taking unfair advantage of my dual role as College President and Department Editor, and it is certainly an extreme example of the "revolving-door phenomenon"; nevertheless, I feel very strongly that the editorial policy statement requires some amplification here.

Publication of *Management Science* is one of the most important functions of TIMS, and ongoing support of the Simulation Department is one of the most important functions of the College on Simulation. Individual College members can support the journal not only as subscribers and readers but also as authors and referees. Of course academics are expected to write papers for archival journals, but the continued relevance and vitality of the Simulation Department depends also on contributions from researchers and practitioners in government and industry. We are making a concerted effort to solicit submissions from authors outside of academia, and the results of this "missionary effort" will begin to appear in the near future.

Since the primary objective of the Simulation Department is the communication of new ideas about the practice and theory of simulation, authors should devote considerable attention to the clarity and accessibility of their contributions. The main complaint that filters down to the Department Editors from the readers of *Management Science* is that many papers are hard to read because of excessive jargon, obscure mathematics, and poor writing style. For guidelines on writing archival technical papers, the following references are highly recommended:

CARTER, S. P., *Writing for Your Peers: The Primary Journal Paper*, Praeger Publishers, New York, 1987.

MENZEL, D. H., H. M. JONES AND L. G. BOYD, *Writing a Technical Paper*, McGraw-Hill Book Company, New York, 1961.

The seemingly glacial pace of the editorial review process is by far the most contentious issue related to the publication of any archival journal. Many authors, especially junior faculty members, are dismayed by the delays that often occur in obtaining editorial decisions on their papers. In the last year we have greatly intensified our efforts to give all authors editorial feedback within four months of the submission of a new or revised paper. To achieve this goal, we require the cooperation of referees in the preparation of *thorough* and *timely* reviews—in particular we ask that referees return their reviews within eight weeks of receipt of a paper. An eight-week turnaround time is generous in comparison to the refereeing deadlines that are enforced in the natural sciences, for example. Our objective is make *Management Science* one of the most attractive outlets for the publication of

high-quality papers on all aspects of simulation, and we require the active support of all College members to achieve this objective.

On a different topic, I urge everyone to examine the various alternative designs for a new College logo that have been prepared by the graphic design artist James McCammack and that have been included on the last page of this *Newsletter*. Please take the time to register your opinion on the enclosed ballot and return it to the College Secretary for tabulation.

James R. Wilson
President, TIMS College on Simulation

Management Science Editorial Policy on Simulation

The Simulation Department seeks to publish high-quality papers dealing with any aspect of system simulation that is relevant to the practice or theory of management science. Thus the scope of the Department encompasses discrete and continuous simulation on the one hand as well as deterministic and stochastic simulation on the other. In all cases, however, a proposed technique should have a clearly identified potential use as an aid in decision making. Papers that are suitable for consideration under these broad guidelines will be thoroughly and expeditiously refereed. The decision to publish a paper will be based on three criteria: (a) importance of the problem to be solved, (b) originality and effectiveness of the proposed solution, and (c) accuracy and clarity of the exposition. For papers belonging to one of the general categories of *theory*, *methodology*, and *applications*, the following considerations apply.

Theory. The Department seeks fundamental contributions to simulation modeling and analysis. The theory of simulation modeling includes the principles of systems theory and computer science that underlie the techniques for building simulation models, and the theory of simulation analysis includes the principles of probability and statistics that underlie the techniques for designing and analyzing simulation experiments. The level of mathematics used in theory papers should be appropriate to the topic but is otherwise unrestricted. In every case, however, the abstract and introduction should be accessible to the general readership of *Management Science*. The Department also encourages survey papers that synthesize state-of-the-art research results in a unified treatment of a given topic, thereby providing researchers and advanced practitioners with an introduction to recent developments on that topic.

Methodology. Within this category, topics of interest include: (a) methods for modeling and generating input processes; (b) environments (that is, concepts, procedures, and software systems) for development and execution of simulation models; (c) verification and validation techniques; (d) output analysis methods; (e) variance reduction techniques; and (f) optimization methods. The presentation of a new methodology should include an analytical or experimental comparison of the proposed method with existing methods. For

example, the experimental evaluation of a new output analysis procedure should be based on simulation of meaningful target systems for which theoretical performance characteristics are known so that proposed and existing estimation procedures can be compared with respect to accuracy, reliability, and efficiency. Moreover, such an experimental evaluation should be described in sufficient detail so that the results can be replicated.

Applications. The Department is interested in publishing case studies that provide lessons of transferable value about the use of simulation to support decision making. Such studies should be distinguished by innovative approaches to the use of modeling and analysis techniques. Moreover, papers in this area should emphasize the way in which knowledge gained from simulation experiments was used to shape general policies or to make specific decisions about the problem at hand.

Authors should submit their papers to the Department Editor:

Professor James R. Wilson
School of Industrial Engineering
Purdue University
West Lafayette, Indiana 47907
(317) 494-5408
wilsonj@gb.ecn.purdue.edu

The Associate Editors for the Simulation Department are Peter W. Glynn of Stanford University and Stephen D. Roberts of Purdue University.

Winter Simulation Conference Notes

The 1988 Winter Simulation Conference, under the leadership of General Chair Peter Haigh and Program Chair John Comfort, continued the tradition of being the flagship conference for simulation. WSC '88 set new records for attendance at approximately 534. Eight tracks consisting of tutorials, methodologies, and applications provided an opportunity to reveal the many dimensions of simulation and attracted a diverse audience representing many levels of interest. Julian Reitman gave the keynote address. The WSC continues to be financially healthy, providing solid surpluses to the sponsoring societies.

The 1989 Winter Simulation Conference will be held on December 4 through 6, 1989 at The Capital Hilton Hotel in Washington, D.C. Ken Musselman of Pritsker & Associates, Inc. is the General Chair and Phil Heidelberger of IBM Research Division is the Program Chair. Alan Pritsker, former Board Representative of TIMS CS, will be the keynote speaker. Interest in the conference is extremely high and another successful WSC is expected.

The 1990 Winter Simulation Conference will be held in New Orleans. Randy Sadowski of Systems Modeling Corporation will be the General Chair, and Dick Nance of Virginia Tech will be Program Chair.

CALL FOR PAPERS
1989 WINTER SIMULATION CONFERENCE
December 4-6, 1989
Capital Hilton Hotel
Washington, D.C.

The 1989 Winter Simulation Conference will feature methodology and application papers, educational tutorials, state-of-the-art reviews, and panel discussions on topics of current interest. Sessions will address topics in discrete event and combined discrete/continuous simulation. Papers or proposals to organization sessions in these areas are invited.

Proposals to organize sessions or panel discussions and to present state-of-the-art reviews or software tutorials are due by April 1, 1989. These proposals should be 1-3 pages (double spaced).

Contributed papers are due by May 1, 1989. Only original papers which have not been presented elsewhere should be submitted. Submission of a paper implies that one of the authors of the paper will attend the conference to present the paper. Send four (4) copies of the full paper (double spaced) or of a three to four page extended abstract to the address below.

Submissions should include the author's full name, address, affiliation, telephone number, and a list of key words. Authors will be notified regarding acceptance of papers in June, and camera-ready copy must be prepared by August 1, 1989.

Send all correspondence to:

Philip Heidelberger, Program Chair WSC '89
IBM Research Division
T.J. Watson Research Center, Hawthorne
P.O. Box 704
Yorktown Heights, New York 10598
(914) 789-7156

Minutes of the College

Washington TIMS/ORSA

Attending: Barry Nelson, Voratas Kachitvichyanukul, Pandu Tadikamalla, Mark Johnson, Ed Mykytka, Ron Dattero, Jeff Tew, Jack Allison, Robert Sargent, Gordon Clark, Bernie Zeigler, Bruce Schmeiser, Steve Roberts, Mike Taaffe, Mary Johnson, Dave Goldsman, Jim Wilson, Jorge Haddock, Jim Swain, Keebom Kang, Sanjay Jain, Farhad Azadivar.

1. President Lee Schruben called the meeting to order at 5:19 pm, April 26, 1988.
2. President Schruben announced the results of the most recent election of officers for the College: David Kelton is Vice-President/President-Elect; Barry Nelson is Secretary-Treasurer. Jim Wilson, the past Vice-President/President-Elect, is the new President.
3. Jim Wilson gave a brief accounting of the College treasury.
4. The student presentation award – scheduled for TIMS/ORSA Washington – was cancelled because there was only one contestant. The following amendment to the rules for the student presentation award was proposed by Jim Wilson:
The student presentation award will only be given if a minimum of five (5) student contestants are present at the Spring TIMS/ORSA meeting.
The amendment was seconded by Voratas Kachitvichyanukul, and passed.
5. Bruce Schmeiser announced that in 1990 SIAM will sponsor a conference on simulation. The ORSA SIG on Applied Probability might participate. Schmeiser suggested that the TIMS CS should also consider participating. Schmeiser will act as an official liaison to SIAM for the College.
6. Steve Roberts, TIMS CS representative to the WSC Board, reported that WSC '87 was the most profitable so far, with attendance of approximately 500. WSC '88 is in San Diego, and WSC '89 is in Washington, D.C. at the downtown Hilton. The TIMS CS will be the leading sponsoring society for WSC '90.
7. Jim Wilson suggested that the College consider publishing a series of monographs as a way to spend our (excessive) funds. Bob Sargent commented that it may be difficult to recruit authors, and that an editorial board would probably be needed to insure quality. Lee Schruben suggested that making the series broad based, not narrowly focused, would increase the pool of potential authors. Papers that sift through currently available methodology would also be permitted. Gordon Clark stated that the series would need to reach the status of a refereed publication. A committee of Schruben and Wilson was formed, and they will give a preliminary report at the College business meeting at WSC '88.
8. Barry Nelson, outgoing *Newsletter* Editor, suggested that a permanent publisher for the *Newsletter* be sought. The *Newsletter* is currently published using whatever facilities and secretarial help are available to the Editor. Ideas ranging from using desk-top publishing to university facilities were discussed. The new *Newsletter* Editor was instructed to investigate options.
9. In a related comment, Gordon Clark suggested that the College create a logo to be used by the *Newsletter* and on awards.

10. Gordon Clark, Chairman of the Outstanding Simulation Publication Award Committee, announced that Bernard Zeigler has won the TIMS CS Outstanding Simulation Publication Award for his book *Multifaceted Modeling and Discrete Event Simulation*, Academic Press (1984). Zeigler was present to accept the award.
11. President Schruben adjourned the meeting at 6 pm.

Respectfully submitted,
Barry L. Nelson
(for W. David Kelton)

San Diego Winter Simulation Conference

TIMS CS members attending: Barry Nelson, Bruce Schmeiser, Pandu Tadikamalla, Jim Swain, Voratas Kachitvichyanukul, Andy Seila, David Kelton, Mike Tàaffe, Russell Barton, J.Jung Lyu, Alan Pritsker, Lee Schruben, Dave Goldsman, Enver Yücesan, Sheldon Jacobson, David Briskman, Tom Schriber, Dave Withers, Bill Biles, Keebom Kang, Jorge Haddock.

Nonmembers attending: Christos Alexopoulos, Prem Bhalla, Tina Song, Russell Cheng, Douglas Morrice, Luc Devroye, Susumu Morito, H. Yang, Doug Heiser, Jim Stevens, Richard Ressler, Karen Pitts.

1. The meeting was called to order by President Wilson at 5:45 PM on December 13, 1988.
2. The Treasurer's report, showing the net worth of the College to be \$23,127.62, was approved. The Minutes of the previous meeting were not read because the Secretary-Treasurer had forgotten them; they will be read at a later meeting.
3. Vice-President David Kelton reported that the College will sponsor three invited-paper sessions at the ORSA/TIMS meeting in New York in Autumn 1989. In addition, the College will sponsor four sessions at the International TIMS meeting in Osaka, Japan in July.
4. Prof. Susumu Morito of Wasenda University in Japan reported that there is a special-interest group on simulation in the Operations Research Society of Japan. They currently have 40-50 members.
5. The possibility of a monograph series on simulation sponsored by the College was discussed. Kelton mentioned that there is a precedent for this in TIMS, and that he has begun discussions with North-Holland Publishers. Wilson asked that those members interested in serving on an editorial board for such a series let him know.

6. Steve Roberts, the TIMS CS representative to the WSC Board, reported that WSC '89 will be held at the Washington, D.C. Hilton December 4-6; Phil Heidelberger is the Program Chair. WSC '90 will be in New Orleans, and Dick Nance is the Program Chair. WSC '88 appears to have set a west coast record for attendance with over 500 attending.
7. Wilson circulated a proposed logo for the College. The logo is diamond shaped, representing decision making, and features an integral sign representing simulation, and printed circuits representing computers. The logo was used on this year's service award. Since there was not universal approval of the logo design, Bruce Schmeiser moved that the proposed logo be used on the next *Newsletter* and that comments be requested. Bob Sargent amended the motion to state that new logo ideas also be requested. The motion passed in a voice vote.
8. Steve Roberts, the President of the Publication Award Committee, reminded the members that nominations are due by February 1, 1989, and publications with 1985, 1986, or 1987 copyrights are eligible. Nominations should be submitted to Roberts, via either mail or e-mail.
9. Wilson reminded members to send their e-mail addresses to the Newsletter Editors to be included in the College directory.
10. The Student Research Presentation Award will be determined at the Vancouver TIMS/ORSA meeting in the spring, provided there are at least five entries. Session Chairs whose sessions have student presenters will be contacted by Kelton.
11. Lee Schruben is the new Chairman of the Service Award Committee, and nominations should be submitted to him. Bob Sargent received this year's service award.
12. David Goldsman will organize the Ph.D. Student Colloquium for WSC '89, and the colloquium will be announced in the Call for Papers. The Colloquium, which will be a regular event at WSC, has been very successful.
13. Jorge Haddock moved that the College undertake a direct effort to attract women and minorities to the field of simulation. Dick Nance offered a friendly amendment that the College direct the President to appoint a committee to investigate the matter and report. The motion passed on a voice vote. A report will be given in Vancouver.
14. The meeting was adjourned.

Treasurer's Report

For the period 11/21/88 through 3/8/89 the College had the following transactions at BancOhio National Bank, Columbus, Ohio.

Balance forward:		\$22,510.20
Revenues:		
Interest earned	372.34	
Total revenues		372.34
Disbursements:		
Seed money for WSC '89	2000.00	
Service Award Plaque	73.80	
Total disbursements		2073.80
Net (revenues - disbursements)		-1701.46
Balance Forward (previous balance + net)		\$20,808.74

All funds are in a money market checking account at BancOhio National Bank. In addition to these funds, the College has on account at TIMS Headquarters the sum of \$814.08 (as of 12/31/88), bringing the College's net worth to \$21622.82.

Respectfully submitted,
Barry L. Nelson, Secretary-Treasurer
March 8, 1989

Abstracts of Papers

Bennett L. Fox (1989), "Generating Markov-Chain Transitions Quickly," Mathematics Department, University of Colorado-Denver.

We give a way to generate transitions directly from a compact representation of the generator of a continuous-time Markov chain corresponding to a queueing network. Under specified conditions, this is (provably) faster than generating these transitions via a future-event schedule. Under weaker (specified) conditions, a variant is never slower but, when the original conditions hold, will be faster. This increases efficiency of certain queueing-network simulations by an order of magnitude. We show that the acceptance-complement method is not competitive in our context.

Bennett L. Fox and Andrew R. Young (1989), "Generating Markov-Chain Transitions Quickly: II," Mathematics Department, University of Colorado-Denver.

A predecessor to this paper gives a fast way to generate transitions in Jackson-like queueing networks. Exploiting a balanced-tree data structure in a novel way, we reduce the computational complexity of that method.

Christos Alexopoulos and George S. Fishman (1988), "Characterizing Stochastic Flow Networks Using the Monte Carlo Method," Technical Report UNC/OR/TR-88/4, Department of Operations Research, University of North Carolina, Chapel Hill.

Consider a flow network $G = (\mathcal{V}, \mathcal{E})$ with node set \mathcal{V} and arc set $\mathcal{E} = \{1, \dots, e\}$. Assume that the nodes do not restrict flow transmission, the arcs have random, discrete and independent capacities B_1, \dots, B_e and let $\mathbf{B} = \{B_1, \dots, B_e\}$. Also, let s and t be a pair of nodes in \mathcal{V} , let $\Lambda(\mathbf{B})$ denote the value of a maximum $s - t$ flow and let Γ denote a set of minimal $s - t$ cutsets. This paper describes a highly efficient Monte Carlo sampling plan for estimating the probability that $l < \Lambda(\mathbf{B}) \leq u$, the probability that a cutset in Γ is critical and $l < \Lambda(\mathbf{B}) \leq u$, and the probability that a cutset in Γ is critical, given that $l < \Lambda(\mathbf{B}) \leq u$. The proposed method takes advantage of an easily computed upper bound on the probability that $l < \Lambda(\mathbf{B}) \leq u$, which is a function of both l and u , to gain its computational advantage. The paper also describes existing techniques for computing confidence intervals and develops a new technique for computing a confidence interval for the conditional probability. Algorithms for implementing the proposed sampling experiment are included and an example illustrates the efficiency of the proposed method.

Mary A. Johnson and Michael R. Taaffe (1988), "Tchebycheff Systems and Moment Spaces in a Probability Context," Research Memorandum 88-21, School of Industrial Engineering, Purdue University.

We provide a concise introduction to the theory of Tchebycheff systems and their application to moment spaces of sets of probability distributions. Our objective is to explain the basis of our applications in Johnson and Taaffe [3,4] and to facilitate development of new applications of Tchebycheff systems in the area of probability. This paper is mainly a review of material found in other sources, though some original material is also included. Our primary source, Karlin and Studden [6], is written in a general context rather than specifically for probability applications. Thus, in addition to restating the definitions and results taken from other sources, we interpret them in the context of probabilistic analysis.

Mary A. Johnson and Michael R. Taaffe (1988), "Error Bounds for Queueing-Performance-Measure Approximations Based on Moment Matching," Research Memorandum 88-22, School of Industrial Engineering, Purdue University.

There are an increasing number of queueing-performance-measure approximations being developed that are based on moment matching. Empirical evidence indicates that approximations based on two moments are often very accurate; but two-moment approximations can be arbitrarily bad and sometimes three-moment approximations are far better. In this paper, we apply results from the theory of Tchebycheff systems to investigate the theoretical error bounds for some queueing-performance-measure approximations. For three

performance measures of a GI/M/· type model, we develop error bounds on performance-measure approximations over the set of all approximations consistent with either the first two or three moments of the interarrival-time distribution. Plots of the error bounds as functions of standardized moments provide insight into the behavior of these bounds and the trade-offs between using two- and three-moment approximations.

Peter A.W. Lewis, Richard L. Ressler, and R. Kevin Wood (1989), "Variance Reduction Using Nonlinear Controls and Transformations," Department of Operations Research Technical Report, Naval Postgraduate School, Monterey, CA.

Nonlinear regression-adjusted control variables are investigated for improving variance reduction in statistical and system simulations. To this end, simple control variables are piecewise sectioned and then transformed using linear and nonlinear transformations. Optimal parameters of these transformations are selected using linear or nonlinear least-squares regression algorithms. As an example, piecewise power-transformed variables are used in the estimation of the mean for the two-variable Anderson-Darling goodness-of-fit statistic W_2^2 . Substantial variance reduction over straightforward controls is obtained. These parametric transformations are compared against optimal, additive nonparametric transformations obtained by using the ACE algorithm and are shown, in comparison to the results from ACE, to be nearly optimal.

Yorai Wardi (1988), "Simulation-Based Stochastic Algorithm for Optimizing GI/G/1 Queues," Department of Industrial Engineering, Ben Gurion University of the Negev, Beer Sheva, 84105 Israel.

Consider a family of stable FIFO GI/G/1 queues, all having the same interarrival time distribution, but differing in their service time distributions. Suppose that the service time distributions are parameterized by a real valued parameter, θ . Let $Z(\theta)$ denote the average customers' waiting time in the θ -dependent queue. Let f be a function of $Z(\theta)$. The objective is to minimize f , over θ in a given closed interval, Γ . The functions $f(\theta)$ and $\nabla f(\theta)$ are evaluated by Monte Carlo simulations. A gradient based algorithm is proposed, and is shown to converge to stationary points. The algorithm and its analysis are discussed in a general context of discrete time dynamical systems, and a new concept of convergence is utilized.

Event Calendar

TIMS/ORSA Joint National Meeting, May 8-10, 1989, Hyatt Regency and Four Seasons Hotels, Vancouver, British Columbia. General Chairman: Prof. Derek Atkins, University of British Columbia, Faculty of Commerce and Business Administration, 2053 Main Mall, Vancouver, BC V6T 1S6. The College on Simulation sponsors a number of sessions at the conference and will sponsor a *Student Research Presentation Award*.

European Simulation Conference, June 7-9, 1989, Rome, Italy. Contact Philippe Geril, University of Ghent, Coupure Links 653, B-9000, Ghent, Belgium. Phone: 0032.91.236961 Ext. 233.

1989 Summer Computer Simulation Conference, July 24-27, 1989, Austin, Texas. Contact: SCS, P.O. Box 17900, San Diego, CA, 92117. Phone: (619) 277-3888.

Third European Simulation Congress, September 5-8, 1989, Edinburgh, Scotland. Contact Prof. D.J. Murray-Smith, University of Glasgow, Dept. of Electronics and Electrical Engineering, Glasgow G12 8QQ, United Kingdom.

Southeastern Simulation Conference 1989, October 16-17, 1989, Pensicola, Florida. Contact Mary Lou Padgett, 1165 Owens Rd., Auburn, Alabama 36830 or Joe Gauthier, 919B Willowbrook Dr., Huntsville, Alabama. Phone (205) 881-0947.

TIMS/ORSA Joint National Meeting, October 16-18, 1989, Marriott Marquis Hotel, New York City. For further information, contact Sunil Chopra, Stern School of Business, New York University, 90 Trinity Place, New York, NY 10006. Phone (212) 285-6180.

1989 Winter Simulation Conference, December 4-6, 1989, Washington, D.C. Contact Kenneth Musselman, Pritsker and Associates, Inc., Box 2413, West Lafayette, Indiana, 47906. Phone (317) 463-5557.

Announcements

Joining the College on Simulation: It is now possible to be a member of the TIMS College on Simulation without being a member of TIMS. Annual membership dues for non-TIMS members of the College a \$4.50, compared to \$2 for TIMS members. To join, send name, address, e-mail address (if applicable), and \$4.50 to Barry L. Nelson, Dept. of Industrial and Systems Engineering, The Ohio State University, Columbus, OH 43210. Make checks payable to "TIMS College on Simulation." If you know people who might be interested in joining, please pass along this announcement.

TIMS College on Simulation Honors Bob Sargent: Robert G. Sargent has received the third annual Service Award from the TIMS College on Simulation. The award recognizes long-standing exceptional service to the simulation community. The award plaque was presented in San Diego at the Plenary Session of the 1988 Winter Simulation Conference, which TIMS co-sponsors with ORSA and five other professional societies. The 1988 Service Award Committee was composed of William E. Biles, Bruce Schmeiser (Chairman), and Lee W. Schruben.

In presenting the award, Bruce Schmeiser summarized Professor Sargent's service contributions to simulation: Bob Sargent's service has spanned many organizations and many years. For the ACM Bob was the *CACM* Department Editor for "Simulation Modeling and Statistical Computing" from 1980 through 1985; he has been a National Lecturer since 1985. Bob was Chairman of the TIMS College on Simulation from 1978 through 1980. He co-edited a special issue of *Operations Research* on simulation in 1983. Since 1984 he has been a Director-at-Large of the Society for Computer Simulation. For the IEEE Computer Society he was Simulation Executive Committee Member from 1985 through 1987. Bob

was the IIE representative to the Winter Simulation Conference from 1974 through 1984. In addition he served as the 1977 WSC General Chairman and as the 1979-1981 Chairman of the WSC Board of Directors.

Professor Sargent is Professor of Industrial Engineering and Operations Research at Syracuse University. Previous Service Award recipients are John McLeod and Richard E. Nance.

TIMS CS Awards Information: For information regarding submission of nominations for the next Outstanding Simulation Publication Award, contact Peter Welch, IBM Watson Research Center, Box 704, Yorktown Heights, NY 10598, (914)789-7560, welch@yktvmh.

For information regarding submission of nominations for the next Service Award, contact Lee Schruben, School of OR&IE, Upson Hall, Cornell University, Ithaca, NY 14853, (607)255-9133, lee@orie.cornell.edu.

Editors' Corner

Below is the latest update of the e-mail directory. If you would like to have your address included, please send it to one of the *Newsletter* Editors.

Name	Affiliation	e-mail address
Gerald Brosnan	AT&T Bell Labs	gab@hound.att.com (arpa) att!hound!gab (usenet)
Russell Barton	Cornell	barton@gvax.cs.cornell.edu
Tom Clark	Florida St.	tclark@fsu.bitnet
John Comfort	Fla. Intl.	comfort@servax.bitnet
Paul Fishwick	Florida	fishwick@fish.cis.ufl.edu
Bob Foley	Georgia Tech	rfoley@gtri01.bitnet
Ben Fox	Col.-Denver	bfox@cudenver.bitnet
Peter Glynn	Stanford	glynn@sierra.stanford.edu
Dave Goldsman	Georgia Tech	dgoldsma@gtri01.bitnet
David Grier	George Wash.	dagrier@gwuvvm.bitnet
Jorge Haddock	RPI	ffye@rpitsmts.bitnet
Phil Heidelberger	IBM	berger@yktwnh.bitnet
Mark Johnson	Georgia Tech	mjohnson@gtri01.bitnet
V Kachitvichyanukul	Iowa	aegvorwy@uiamvs.bitnet
Keebom Kang	Naval Postgrad	5030p@navpgs.bitnet
Dave Kelton	Minnesota	dkelton@umnacvx.bitnet
Jack Kleijnen	Katholieke U. Netherlands	t435kleijnen@htikub5
Peter Lewis	Naval Postgrad	1526p@navpgs.bitnet

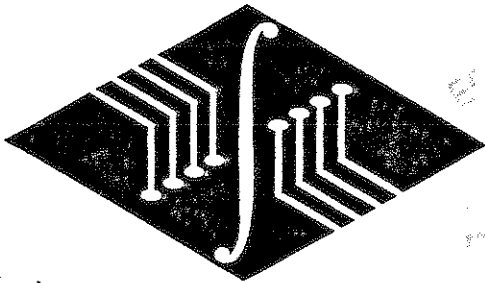
Barry Nelson	Ohio State	nelson-b@eng.ohio-state.edu
Norman Nielsen	SRI Internat'l	nielsen@kl.sri.com
Steve Roberts	Purdue	steverob@gb.ecn.purdue.edu
Bruce Schmeiser	Purdue	schmeise@pink.ecn.purdue.edu
Tom Schriber	Michigan	userk2bu@michub.bitnet
Lee Schruben	Cornell	lee@orie.cornell.edu
Andy Seila	Georgia	aseila@uscn.bitnet
Wheyming Tina Song	Purdue	wheyming@pink.ecn.purdue.edu
Bob Storer	Lehigh	rhs2@lehigh.bitnet
Jim Swain	Georgia Tech	jswain@gtri01.bitnet
Mike Taaffe	Purdue	taaffe@gb.ecn.purdue.edu
Sekhar Venkatraman	Wichita State	sekhar@twsuvm.bitnet
Peter Welch	IBM	welch@yktvmh.bitnet
Jim Wilson	Purdue	wilsonj@yellow.ecn.purdue.edu
Jeff Wright	Purdue	wrightje@simplex.ecn.purdue.edu inhp4!pur-eelwrightje.bitnet

As usual, please send any announcements, abstracts, or other material which you may wish to contribute to the *Newsletter*. – DG,JJS

Logo Selection

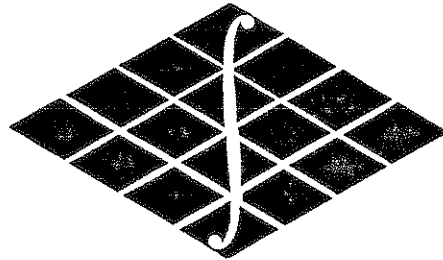
Four versions of the TIMS College on Simulation Logo have been provided by the designer, James McCammack. Please review and vote on the design of your choice using the handy mail-in ballot provided on the reverse side of this page.

A



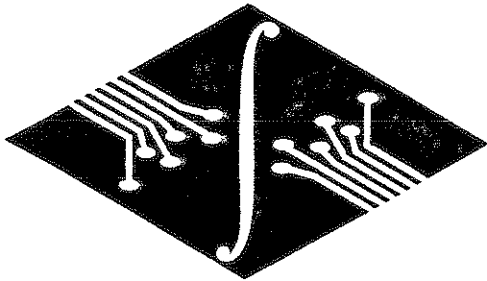
T · I · M · S
College on
Simulation

B



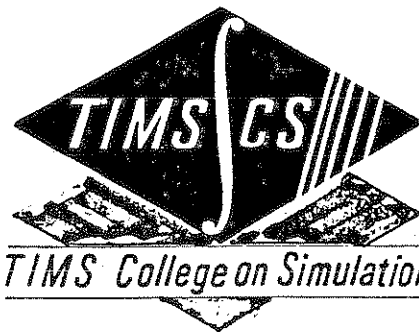
T · I · M · S
College on
Simulation

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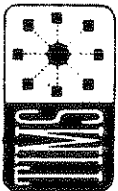


TIMS College on Simulation

Ballot for Logo Selection

Indicate your selection for Logo below and return to Barry Nelson, Dept. of Industrial and Systems Engineering, The Ohio State University, Columbus, Ohio 43210. Only members of the College are eligible to vote. The mailing label on the back of the ballot certifies your vote (which will be kept confidential).

I select Logo design _____ for the new College on Simulation Logo.



COLLEGE ON SIMULATION
THE INSTITUTE OF MANAGEMENT SCIENCES
290 WESTMINSTER STREET
PROVIDENCE, RI 02903



FIRST CLASS

010462
BARRY NELSON
OHIO STATE UNIV - I S E
1971 NEIL AVENUE
COLUMBUS, OH 43210

