ANNOUNCEMENT AND CALLS FOR PAPERS

BRIDGING THE GENERATIONS

AN INTERNATIONAL WORKSHOP ON THE FUTURE DIRECTIONS OF COMPUTER-AIDED ENGINEERING
Honoring the contributions of Dr Steven J. Fenves

June 18–19, 1994, Carnegie Mellon University, Pittsburgh, PA, U.S.A.

Workshop purpose

The purpose of this unique workship is two-fold: to pay tribute to Dr Steven J. Fenves' role as a founding father of computer-aided engineering (CAE) and to provide an opportunity for members of the CAE community to discuss future directions of the field. Unlike other conferences, this workshop is not intended to be a place to present research results, but rather a forum for an open dialog on what the future might be for CAE research, practice and education.

A tribute to Steve Fenves

Associated with the workshop is a special dinner in honor of Steve Fenves. Colleagues and friends of Steve as well as workshop attendees and families are invited to come along on Saturday evening, June 18, for a dinner cruise aboard a riverboat. The cost for the dinner cruise is U.S. $60 per person, and is open to all on a first-come, first-served basis.

Workshop format

The workshop is organized into five discussion sessions. The four sessions on Saturday, June 18, will each be led by a small panel of participants selected from those submitting position papers. Panel members will present their vision for the future of CAE, followed by an open discussion of the session topic. Saturday's luncheon will include a presentation by Dr Herbert A. Simon. Then on Sunday morning, June 19, a general open discussion will be held, and Steve Fenves will summarize the ideas expressed during the workshop.

Position papers

Take this opportunity to step back from your current work and think about future directions for CAE research, practice and education. Then submit a position paper presenting your views. Papers will be reviewed to ensure they meet the objectives of the conference and to select the panelists who will lead the discussion sessions. All accepted position papers will be distributed to workshop participants prior to the workshop so they can prepare for discussions. A workshop monograph will be published after the workshop containing the position papers, transcripts of the discussion sessions and of the summary by Steve Fenves. Copies will be provided to all workshop participants.

Workshop topics

Major themes and topics for the workshop are listed below. Topics are not limited to these areas; papers submitted on all relevant topics are encouraged.

ANALYSIS, SIMULATION AND EVALUATION

- Reasoning and representation
- Visualization
- Virtual reality environments
- Computational methods
- Qualitative methods

DESIGN ASSISTANTS

- Intelligent decision support systems

301

- Knowledge representation
- Human–computer interfaces
- Machine learning

INTEGRATED ENVIRONMENTS

- Product modeling and project databases
- Integrated engineering systems
- Communication and control
- Conflict resolution and negotiation

EDUCATION AND PROFESSIONAL PRACTICE

- Computing and education
- Computing and the engineering process
- History and heritage

Workshop fee

The workshop fee is U.S. $150 and includes the workshop monograph, lunches and refreshment breaks. Make checks payable to *Carnegie Mellon University*.

Important dates

December 15, 1993	Position papers due
February 1, 1994	Notification of acceptance
April 1, 1994	Final papers due
April 15, 1994	Dinner reservation deadline
June 1, 1994	Workshop registration deadline
June 18–19, 1994	Workshop

Need information?

If you would like more information, write to:
    CAE Workshop
    Department of Civil Engineering
    Carnegie Mellon University
    Pittsburgh, PA 15213–3890, U.S.A.
Phone: (412) 268–1070
FAX: (412) 268–7813
E-mail: cae-workshop@cmu.edu

RESEARCH METHODOLOGY

AI EDAM SPECIAL ISSUE

AI EDAM is an international journal devoted to the reporting of research and applications of AI in engineering design, analysis and manufacturing. Early work in this field was largely exploratory and often ignored methodological issues. (The term methodology used here means more than methods, it stands for the methods of conducting research and the interpretation of the research activity including: the meaning and evaluation of the results, the accumulation of knowledge, the relation of research to practice, etc.)

While some scattered studies on AI EDAM research methodology exist, the lack of continuous attention to this subject has severe consequences on the field: (1) it is sometimes unclear what the goals of the field are; (2) it is unclear what constitutes a contribution to the field; and (3) it is unclear what are appropriate or promising ways of approaching research questions. These three problems, and others, complicate the interpretation and understanding of research results, and gradually make it hard to convince potential supporters of the merit of the field. This special issue attempts to expand the discussion on these fundamental problems.

Topics are welcome from (but not limited to) the following issues;

- What kind of inquiry is AI EDAM and how does this influence its research methodology?
- What is the purpose of AI EDAM research?
- How should AI EDAM research be tested or validated?
- How is knowledge accumulated in AI EDAM research?
- What are good measures of AI EDAM research progress or goodness?
- What is the relation between AI EDAM research and practice, and how does it influence the research methodology?
- Is (should be) research methodology of AI EDAM different from methodologies in other engineering disciplines?

- Reviews of methodologies used in research and their successes/failures.

This list is by no means exhaustive; other topics are welcome provided that they are relevant to the issue of AI EDAM on research methodology.

All papers submitted to this special issue will be reviewed according to the usual procedures of AI EDAM.

Please submit four copies of a paper in the usual submission format (see instructions to authors which appear in every issue of the journal) to the guest editor at the following address (or any other inquiry regarding this special issue).

Yoram Reich
Department of Solid
  Mechanics, Materials
  and Structures
Faculty of Engineering
Tel Aviv University
Tel Aviv 69978
Israel

Phone: 1 972 3 6408738
FAX: 1 972 3 6429540
E-Mail:
  yoram@edrc.cmu.edu

Please note that the review process, including possible required revisions, must be completed by June 1994 for the paper to be published in the special issue.

FUNDAMENTAL APPROACHES AND APPLICATIONS OF QUALITATIVE REASONING IN STRUCTURAL ENGINEERING

AI EDAM SPECIAL ISSUE

Fall 1995

A special issue of AI EDAM on the topic of "Qualitative Reasoning in Structural Engineering" is being planned for Fall 1995. The special issue will be jointly guest edited by Dr Renate Fruchter from Stanford University and Prof. Kim Roddis from Kansas University.

Dr Renate Fruchter
Department of Civil
  Engineering
J.A. Blume Center
Stanford University
Stanford, CA 94305-4020
U.S.A.

Prof. Kim Roddis
Department of Civil
  Engineering
2008 Learned Hall
University of Kansas
Lawrence, KS 66045
U.S.A.

The special issue is co-sponsored by the ASCE Expert System and Artificial Intelligence Committee of the TCCP.

Papers discussing the following topics will be considered for inclusion in this special issue:

- qualitative modeling and analysis;
- qualitative reasoning approaches that assist synthesis;
- qualitative reasoning approaches for diagnosis;
- qualitative reasoning approaches that support redesign.

Topics other than those mentioned here will also be given consideration. Issues of interest include, but are not restricted to, the detailed and informative discussion of:

- definition of qualitative reasoning in structural civil engineering, and the goals of qualitative reasoning as perceived from the perspective of presented applications;
- structural engineering related application of Qualitative Reasoning (QR);
- proposed QR approach(es) and rationale for the design of the implemented system;
- ambiguity and proposed approaches to reduce ambiguity;
- appropriateness and limitations of approach;
- combination of QR approaches with other approaches (e.g., approximate or quantitative analyses);
- scalability of proposed approach;
- benefits and implications in the structural engineering domain and future research directions.

To participate in this special issue, you are encouraged to submit an abstract as an indication of the author's intent to submit a full paper. The abstract should describe the intended topic and issues to be discussed, and should be maximum one page, single spaced. Abstracts should be submitted as soon as possible and no later than January 15 1994. Full paper manuscripts should be submitted by July 31 1994. Please follow the guidelines for authors submitting to AI EDAM described in every issue of the Journal.

Send abstracts and full papers to

Dr Renate Fruchter   FAX: (415) 725-8662
Department of Civil   E-Mail:
  Engineering   fruchter@cive.stanford.edu
J.A. Blume Center   Phone: (415) 723-3415
Stanford University
Stanford,
  CA 94305-4020
U.S.A.

Deadlines

One page abstract   ASAP, no later than
                             January 15 1994

Submission of full paper	July 31 1994
Reviews due	October 31 1994
Review decision	November 20 1994
Review notification to authors	December 1 1994
Revised papers due	March 1 1995
Review of revised papers	May 31 1995
Final review decision and notification	June 15 1995
Submission of final set of papers to AI EDAM	August 15 1995