



CIE

Computers in Engineering Division Newsletter

Fall 1995

Gary A. Gabriele, Editor

Message From The Division Chair

Fatih Kinoglu

As the new chair of the CIE Division it is my pleasure to serve the members in 1996. In the past 16 years the Computers in Engineering Division has enjoyed strong participation and focus as a result of excellent leadership and support from both industry and academia. At the time the division was formed, mainframe based computers were just beginning to affect the day-to-day activities of engineers. The first applications were in the areas of CAD and FEA. Some call this era the computer age. Our challenge at that time was to understand and explore what computers could do for us, the engineers, and test the limits in applying the technology to a variety of problems. In the last 5-6 years we experienced a tremendous explosion in computer technology (both hardware and software) resulting in more computing power for less cost with thousands of software packages covering a wide range of applications. Today, we can't imagine an organization that doesn't use computer technology. Our challenge now is to better utilize this technology and its main product - the information to make our decision making process faster, better, more timely, consistent, etc. Today, we can access a wide range of information from our desks, interpret it, apply it, and expand our knowledge. The globalization of world economies and markets make information one of the most important elements of doing business. These changes prompted the Computers in

Engineering Division Executive Committee members to re-examine and evaluate our division and identify actions necessary (if any) to take it into the next century. For this we need your help. Here are some of the issues on which we would like to hear your opinion:

- Name of the Division. Do you think we should consider a new name for the division? Computers are now common place. What was once a luxury is now considered a necessity (most notably in engineering and manufacturing).
- Technologies associated with the Division. Currently we have 6 technical committees. Over the years we added and deleted some technical groups based on the level of interest from the members. We would like to know your opinions on adding some new ones that may be more relevant and in concert with the current trends. One example is systems engineering.
- Activities or programs to increase industrial participation. In the past, industrial participation in our conferences has been very low. As one of the industrial participants, I would like to work with our members to identify new programs or formats that will increase the interest and participation of the industry. This will generate and foster a good interchange between industrial and academic participants.

You can communicate your ideas to me through E-mail (my address is [mfkinoglu@mmm.com](mailto:mfkino@mmm.com)), by phone (my phone number is 612-778-7116), or my mail (my address is listed in the Call for Papers announcement). I look forward to hearing from you.

The 1996 conference preparation started last June. Dr. Y-S. Kim is the Technical Chair of the conference, which will be held jointly with the Design Technical Conferences (as it has been for the last 2 years). A copy of the Call for Papers announcement is included in this newsletter. The conference information is also listed in our web pages (URL address is <http://www.eng.uci.edu/~mccarthy/>).

I look forward to working with you in the coming year and hope to hear your comments.

CONGRATULATIONS

Congratulations are in order for Dr. Don Riley for his recent promotion to the grade of ASME Fellow. Don has had a distinguished career as an educator and researcher in the area of computer aided design. He has been a member of the faculty of mechanical engineering at the University of Minnesota since 1976, and served as CIE Division Chair in 1991. Dr. Riley currently serves as the Associate Provost for Computing and Information Systems at the University of Minnesota.

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Past Chair's Report

Terry E. Shoup



There is an ancient greeting that says "may you live in interesting times." Hardly anyone today would disagree that we do indeed live in some of the most interesting times since the advent of the industrial revolution. Perhaps the single most significant factor that supports this conclusion is the progress that has been made in the area of computing as it relates to our jobs and our lives. As we recognize this, we must acknowledge that it is not the computer itself that drives progress, but rather the uses that people have been able to find for this incredibly powerful tool. The Computers in Engineering Division of the ASME is in the enviable position of being the purveyors of information on how to use this tool more effectively in the work of mechanical engineering. Thus, as the use of computers continues to grow in significance to the practice of engineering, so also will the division grow in its role in helping to define and develop this technology for the benefit of our profession. Although the array and quality of design and analysis tools that are available for today's engineer seem highly robust, the progress that lies ahead will make these tools seem antiquated by comparison. Thus the work of the division is both challenging and exciting.

As the outgoing Chair of the Computers in Engineering Division it is my pleasure to report to you on the progress during this past year. At the present time our division is over 7,000 strong including primary and secondary members. We also have four technical chapters associated with the Boston Section, the Los Angeles Section, the Orange Country Section and the South Texas Section.

Several events, both past and future are worthy to note in the life of the Division. First our recent international conference in Boston, joint with the 1995 Design Technical Conferences was an outstanding success. Much credit and thanks for

this success goes to Dr. Gary Gabriele and Dr. Ahmed Busnaina whose vision and hard work in organizing and operating the meeting around the theme, "Engineering Software in the 21st Century" enabled us to see significant glimpses of the interesting times ahead. During the year ahead, the Computers in Engineering Division will enjoy the capable leadership of Fatih Kinoglu as the Division chair and Conference Chair. A more complete description of this conference is included along with the 'call for papers' later in this newsletter.

As I look back on the past year, it seems especially appropriate to acknowledge the most important part of our division – namely *you* the member. Without your participation and involvement, our division would simply not exist. The Division needs your continued ideas and energy as we move into the interesting times ahead. With your continued involvement, we will surely live in interesting times!

Systems Engineering

Milton E. Franke

The design and engineering of systems in the 21st century has focused attention on the challenge to developing increasingly complex systems with the latest technology. It is likely these complex systems will require more interdisciplinary approaches and more systems integration. The systems will have more complex interactions of hardware, software, and human elements. They will require new and better engineering and management processes, the latest computational techniques and the use of emerging technologies.

In facing the challenge, there are many initiatives underway. For example, the Naval Surface Warfare Center Dahlgren Division, jointly with the Office of Naval Research and the Naval command, Control, and Ocean surveillance Center, initiated a program to promote wise technology investments in the engineering of complex systems. This program has established an annual workshop to bring together interested engineers, managers, and technologists from industry, government, and academe to explore solutions to the challenges and encourage community participation, including engineering societies. A number of societies are currently active in sustaining progress in interdisciplinary activities, such as the International Council on Systems Engineering, the Society for Design and Process Science, and the IEEE. An

initiative is underway to involve ASME in more interdisciplinary efforts.

While ASME does not have divisions devoted entirely to systems developments and systems integration, several divisions within the Systems and Design Technical Group have expressed a desire to participate and cooperate in the organization of technical sessions and activities of an interdisciplinary nature directed at solving systems and systems integration problems. These divisions include the Computers in Engineering Division, Design Engineering Division, Dynamic Systems and Controls Division and Electrical and Electronic Packaging Division. Also, the Management Division and the General Engineering Technical Group, the Center for Research and Technology Development, the Petroleum Division, and the Engineering Information Management Program have shown an interest. Other divisions and groups are encouraged to participate as well.

An organizing meeting will be held at the 1995 International Mechanical Engineering Congress and Exposition in San Francisco for those individuals and divisions interested in expanding ASME's role in systems integration. For further information contact: M.E. Franke, Air Force Institute of Technology, AFIT/ENY, Bldg. 640, 2950 P Street, Wright-Patterson AFB, OH 45433-7765, 513/255-2362 ext 4720, FAX 513/476-7621, mfranke@afit.af.mil.

1996 Conference Announcement

Sixteenth ASME INTERNATIONAL COMPUTERS IN ENGINEERING CONFERENCE.

August 19-22, 1996 University of California, Irvine, Irvine, California, U.S.A.

To be held in conjunction with the Tenth Annual Engineering Database Symposium and the 1996 ASME Design Engineering Technical Conferences

DEADLINES FOR TECHNICAL PAPERS

December 15, 1995: Submission of four copies of paper
March 1, 1996: Notification of acceptance to authors.

The Sixteenth Annual ASME International Computers in Engineering (CIE) Conference will have the theme of Information Integrated Engineering. Today,

engineers need to be aware of various types of information technologies and resources and how they can utilize these tools to enhance their knowledge and become more productive. The integration of information technologies is critical to engineers in performing design, analysis, modeling, and information interpretation tasks. Computing software systems are used in various engineering aspects in a more mature manner and rapid growth of the power of computing hardware has allowed more realistic application of information integrated engineering. Emphasis should now be put on the integration effort to bring together individual computer-aided engineering aspects using the new and existing information sources and techniques. Research and development results of engineering integration software and technology, methodologies and infrastructure for integrated engineering and collaboration will receive special focus in the 16th CIE conference as well as its usual topics:

CAD/CAM/CAE/CIM, Feature-Based Design and Manufacturing, AI in Engineering, Process and Production Planning, Virtual Environments for Product Development, Rapid Prototyping, Finite Element Methods, Computational Fluid Dynamics, Computers in Energy Systems, Engineering Analysis, Simulation, Graphical User Interface and Multimedia, Engineering Information Management, and Computers in Engineering Education.

Technical papers are solicited in the above areas. All papers will be given thorough peer reviews and if found acceptable, will be published in the proceedings of the conference, and presented at the conference. Papers which are deemed to have lasting or archival quality will be recommended for forwarding to the appropriate journals including ASME Transactions for their review and potential publication.

Conference Chair

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Technical Program Chair

Prof. Yong Se Kim, Department of General Engineering, University of Illinois at Urbana-Champaign, 104 S. Mathews Ave. Urbana, IL 61801-2996 phone: (217) 333-1180 fax: (217) 244-5705 Email: yskim@ux1.cso.uiuc.edu

TECHNICAL AREAS & PROGRAM CHAIRPERSONS

Authors should submit four copies of their full papers to the respective technical area chairperson listed below by December 15, 1995. Title page must include address and telephone number of corresponding author, and an abstract. Suggestions for special sessions can be made to the technical program chairman or technical area chairpersons.

- Computer Aided Engineering
- Computer Graphics
- CAD/CAM Integration and CIM
- Concurrent Engineering

Dr. Richard Crawford, Dept. of Mechanical Engineering, ETC II 5.160, University of Texas at Austin, Austin, TX 78712-1063, Ph: (512) 471-3030, FAX: (512) 471-7682,

richc@mcl.cc.utexas.edu

- Feature Based Design
- Manufacturing Process
- Production Planning Knowledge-Based Systems
- AI in Engineering

Prof. David W. Rosen School of Mechanical Engineering Georgia Institute of Technology 813 Ferst Drive Atlanta, GA 30332-0405 phone: (404) 894-9668 fax: (404) 894-9342 Email: david.rosen@me.gatech.edu

- Computers in Energy Systems
- Computational Fluid Mechanics
- Computational Heat Transfer
- Combustion Modeling/Diagnostics

Prof. Ashwani K. Gupta Dept. of Mechanical Engineering University of Maryland College Park, MD 20742 phone: (301) 405-5276 fax: (301) 314-9477 Email: akgupta@eng.umd.edu

- Finite Element Techniques
- Computational Mechanics
- Computational Geometry

Dr. Kenneth Bannister US Army Research Lab. Weapons Technology Directorate AMSRL-WT-PD (Ken Bannister) APG, MD 21005-5066 phone: (410) 278-6121 fax: (410) 278-6135 Email: kab@brl.mil

- Virtual Prototyping
- Virtual Reality Applications in Design and Manufacturing
- Virtual Manufacturing Process Models
- Virtual Environments for Design and Engineering Applications

Prof. Sankar Jayaram, School of Mechanical and Materials Engineering Washington State University Pullman, WA 99163-2920 phone: (509) 335-3145

fax: (509)335-4662

email:jayaram@mme.wsu.edu

- Non-traditional Computing & Simulation
- Fuzzy Logic in Control
- Fuzzy Sets & Systems
- Artificial Neural Networks

Prof. Dean B. Edwards Department of Mechanical Engineering University of Idaho Moscow, ID 83843 phone: (208) 883-5531 fax: (208) 885-9031 Email: dedwards@uidaho.edu

- Finite Elements in the Classroom
- Microcomputers in the Classroom
- CAD in Higher Education
- Software Tools in the Classroom

Prof. Mohammad Khosrowjerdi Dept. of Mechanical Engineering Western New England College Springfield, MA 01119 phone: (413) 782-1337 fax: (413) 782-1746 Email: mkhosrow@wnecc.edu

- Computer Aided Testing and Measurement
- Embedded Controller Applications
- Multimedia and Graphical User Interface

Dr. T. Gary Yip Excel Computers 2797 Park Avenue, MS 101 Santa Clara, CA 95050 phone: (408) 261-0496, fax: (408) 261-0499, Email: gcamry@aol.com

For more information: contact conference chairman, Fatih Kinoglu, mkinoglu@mmm.com, or technical program chairman, Yong Se Kim, yskim@ux1.cso.uiuc.edu.

CD-ROM Proceedings

For 1996 CIE conference, CD-ROM proceedings will be made instead of paper ones. This will allow papers of length up to 12 equivalent printed pages with color figures. In addition to the CD-ROM proceedings, a bound volume of abstracts will be provided to the attendees of the conference.

WWW

World-Wide-Web Page for the CIE conference and Design Technical conferences.

Information for the authors and attendees of the 1996 CIE conference and Design Technical conferences to be held together is available on WWW page (<http://www.eng.uci.edu/~mccarthy>). The information includes call for papers, author information and paper specification, conference site, on-campus accommodations and hotels, etc.

Join the ASME Computers in Engineering Division Today

To join the Division, and/or ASME, fill out and mail the following form to Mr. Fred Goldfarb at ASME Headquarters

To: Mr. Fred Goldfarb, ASME 345 E. 47th St., NY, NY

From: _____ Date: _____

Affiliation: _____

Address: _____

Phone: _____

- I wish to become a member of the ASME Computers in Engineering Division
- I am an ASME member I wish to join the ASME, Please send me a membership application

I would like to be active in promoting the goals of the program. Please contact me. []

Technical Interests and Comments: _____

The Program mailing list is updated annually. If you have previously sent in a form, there is no need to send it again unless there has been a change in address or phone number

Place Stamp Here

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