ASME

COMPUTERS & INFORMATION IN ENGINEERING DIVISION

Fall 2006 *Ravi Rangan, Editor*

Chair's Message

Plamen Bliznakov, Chair 2005-2006.

Contents

International Design Engineering Technical Conferences (DETC) and Computers and Information in Engineering Conference (CIE)

Philadelphia, Pennsylvania – Venue for the 26th CIE Conference

It has been an honor and privilege to serve on the Executive Committee of the Computers and Information in Engineering Division for the past five years. It has also been an exciting experience as both ASME and our Division are going through a transformation with an objective to better meet the needs of you -- our members, and to draw strength from your talents and enthusiasm.

The annual Computers and Information in Engineering Conference has always been a major event for our division. The conference last year was a special occasion, as we celebrated the 25th anniversary of the Division and the Conference. Thanks to the contribution of many members (some of whom have been active for a long time and others only more recently), as well as the drive of the past Division Chair and ASME IDETC/CIE Conference co-chair David Lee, we were able to hold many events recognizing the anniversary. You can feel the festive atmosphere in Long Beach, CA from the images in this newsletter. More are available online. The 25th anniversary also gave us an occasion to put materials from previous conferences on our Web site.

At the Division meeting in Long Beach we also discussed various ideas on expanding our activities. Of course the traditional events such as the Conference and the ASME Congress will continue to be very important in our life. The Congress in particular has seen a growing interest and participation of members of our Division over the past few years.

Beyond that, we noted that the changes in the globalized world are expanding the horizons of the engineering profession and the geography of our membership. Even our regular Executive Committee meetings nowadays require conference calls with participation from the East and West coasts in the U.S., as well as Europe and Asia. In response to the needs of our Division members, we have co-sponsored several international conferences – TMCE 2006 in Slovenia, PLM'06 in India, and I-ESA'07 in Portugal.

We are also trying to bring the CIE Division closer to home for those members who are unable to travel to our meetings. The *Journal of Computing and Information Science in Engineering* has grown from a start-up 5 years ago to a recognized research journal that attracts high-quality submissions from our community as well as the Design Engineering Division– our partner and new co-sponsor of the journal. Many people continuously contribute to the journal's success under the stewardship of the JCISE Technical Editor Prof. Jami Shah.

We are also working with local ASME sections to organize events of common interest. Going forward, we also hope to use the Internet and organize online seminars or tutorials on topics in our field.

Another important idea discussed in our division is recognizing within ASME the contributions and achievements of our members. This is an area in which we have an opportunity to make great pro-

gress. Your input and nominations for society awards will be appreciated.

As the year during which I played the role of the CIE Division Chair came to an end, I am more optimistic than ever about the future of our division. It is a vibrant community of partners sharing common interests and ideas. I hope the members will continue to come up with new initiatives and get actively involved in the life of the division, so that we all enjoy the benefits.

Plamen Bliznakov

Status report on the 26th Computers and Information in Engineering Conference

Submitted by: Imre Horváth, Delft University of Technology and Chris Paredis, Georgia Tech.

Let us start with a glimpse back to 2005. The last year was special for the reason that the mechanical engineering community celebrated the 125th anniversary of the American Society of Mechanical Engineers. It was a special year also for the series of CIE Conferences that is organized parallel with the ASME International Design Engineering Technical Conferences (IDETC). The CIE Division had the pleasure to organize its 25th anniversary conference in Long Beach, California on September 24-28. This jubilee conference was a great success, with 124 paper presentations, 33 technical sessions, 2 special anniversary sessions, more than 200 participants, and many special events. The special events included an Anniversary Showcase that demonstrated many outstanding practical results in computational systems development and application.

The CIE 2006 Conference, organized in Philadelphia, PA, on September 10-13, 2006, was chaired by Prof. Dr. Imre Horváth, Delft University of Technology, the Netherlands (i.horvath@tudelft.nl). The technical program chair was Prof. Dr. Chris Paredis, Georgia Institute of Technology, Georgia (chris.paredis@ me.gatech.edu). The University of Pennsylvania hosted the CIE 2006 conference, which welcomed international speakers and delegates from all around the world as well as participants from the United States government, industries and academia. The CIE 2006 conference was held at Wyndham Philadelphia at Franklin Plaza, which is located nearby the center of Philadelphia, perhaps the most historically rich city in the United States but with a long tradition of industrial innovation and manufacturing as well.

This year was a regular CIE Conference, which intended to be a forum for the presentations and discussions of lecturers and delegates from the industry, government and academia. The major goals of the 26th Computers and Information in Engineering Conference (CIE 2006) were to facilitate research, development and application, and to disseminate knowledge about emerging theories, methods and tools, successful products, and best academic and industrial practices amongst the national and international members of the Computers and Information in Engineering Division and beyond. This CIE conference focused on emerging information and communication technologies that impact critical engineering issues of product definition, conceptualization, design, development and realization. It also focused on exchange, management and integration of information throughout the entire engineering product and process life-cycle, as well as on dislocated collaborative work, new design and engineering environments, and non-traditional computing.

A total of 130 abstracts and 123 papers were submitted to the 26th CIE 2006 conference, with 94 papers accepted. The technical sessions were organized by the Technical Committees (TCs) of the CIE Division. The numbers of sessions organized by various TCs were: Computational Technologies for Engineering Sciences Applications (CTESA) – 3 (Finite element methods and application, Inverse computational modeling applications, and Modeling environments for simulation-based design); Computer-Aided Product Development (CAPD) – 9 (Advances in reverse engineering, Computer-aided process planning, Advanced realization processes, Design synthesis and optimization, Advanced modeling of machining operations, Tools and methods for conceptual design, Novel interfaces for product development, Geometric analysis in simulation-based design, and Geometric algorithms and applications); Computers in Education (CiEd) – 1 (Computers in higher education); Computers in Electromechanical Systems (CINEMAS) – 1 (Computers in electromechanical systems); Energy Systems (ES) – 2 (Computational advances for flows in engineering applications, and Thermal management of energy systems); Enterprise Information Management (EIM) – 3 (Semantic representations for product information, Engineering information management, and Ontologies and description logics); Internet-Aided Design, Manufacturing and Commerce (IADMC) – 2 (Agent-based based systems in product development, and Collaborative engineering frameworks); Virtual Environments and Systems (VES) – 3 (Advanced visualization technologies and applications, Haptic interfaces for product development, and Ergonomics in products and interfaces); and Integrated Systems Engineering – 1 (Integrated systems engineering). In addition, there were also a CIE 2007 Conference Planning meeting and a CIE Young Engineers Forum meeting.

The keynote speaker of the CIE 2006 conference was Prof. Dr. Michael Tovey of the School of Art and Design, Coventry University, England. His discipline range encompasses design, communication, media, visual and performing arts, and interdisciplinary activity both between then and with computer science and engineering. Since 1987 Prof. Tovey has been a key researcher in a number of research council and EU funded projects. These have been centrally concerned with the development of CAD support for the industrial design process for automotive stylists in the car industry. A key pre-occupation has been the need to support their creative processes and intuitive approaches whilst acknowledging the management framework within which they operate. This has involved working closely with the automotive industry in the development of a number of systems. In so doing he has employed the notions of threshold concepts and spatial intelligence and creativity. They provide a context in which we are able to both exploit computer modeling techniques and relate them to the deeper understanding of spatiality which depends on conventional hands-on and craft techniques. The title of his keynote talk was: “Industrial Design modeling in educating designers for the automotive industry”.

The luncheon speaker was Steve Rohde, currently Director of Automotive Operations for Quantum Signal and a widely recognized authority on the role of mathematics and computers in automotive engineering. Dr. Rohde recently retired as Technical Director for Global Technology Planning, Electrical and Controls Technology, Virtual Reality, and Training and Communication in General Motors' Math-Based activity. He is also an ASME Distinguished Fellow. Dr. Rohde spoke on "The History, Status and Future of Virtual Product Development," a presentation that included numerous photographs from automotive history and an interesting look back at how computers shaped the industry and will continue to do so.

There was one tutorial given at CIE 2006, on Real-Time Linux for Control of Mechatronic systems. The tutorial was presented by Mr. Frederick M. Proctor, NIST, and Dr. Harry H. Cheng, University of California Davis. This tutorial described how the free Linux operating system can be used for high-performance real-time control, and explained some real-time software principles including threads, mutual exclusion, synchronization and communication for those practitioners who design, build or use computer control systems for mechatronics applications, including laboratory, classroom or industrial applications.

For further information on the conference program, please visit the main web-portal of ASME at http://www.asmeconferences.org/IDETC06/. We look forward to seeing you at CIE 2007 in Las Vegas next September.

Reaching out to the Global membership

Submitted by: Ravi Rangan, Centric Software, Inc. and Imre Horváth, Delft University of Technology

In a 2005 strategic report prepared for the ASME, the Institute for Alternative Futures identified six strategic issues shaping the Global Future of Mechanical Engineering. These included:

1. Global Harmonization of Standards
2. Technology Innovation Networks
3. Systems Thinking
4. Attracting and Educating Tomorrow's Engineer
5. Collaborative Learning Communities
6. Bioconvergence: Biology Meets Engineering

According to the report: "Each of these issues is important, but together they suggest that very different futures are possible for those with the aspiration to act on the opportunities. Countries and organizations that attract enough young people and educate them to succeed in a professional environment of rapid innovation and changing social priorities will claim the future. Collaborative learning communities will give all professionals the real time opportunity for lifelong learning. Mechanical engineers who can meet the need for major advances in resource productivity and the growing importance of biotechnology will be in demand. The global marketplace increasingly rewards those who keep pace with innovation and harmonize their work and products into an integrated system".

Validating this trend, in a panel session at the TMCE 2006 conference (see below), Dr. Ömer Anlağan, TUBITAK (Scientific and Technologic Research Council of Turkey) coined an interesting definition of globalization, namely "Freedom to the Capital". With the flow of capital from West to East, and additional increase in R&D funds and more investment in education in the East, the nature of collaboration and competition will radically change over time. Dr. Anlağan also cited a 2002 NSF report that predicts that if current trends continue, by 2010 over 90% of all physical scientists and engineers in the world will be Asians working in Asia. Highlighting cultural differences, at the same conference, Dr. Shuichi Fukuda noted key differences between Western and Japanese approaches: Japanese collaborate for a group which in turn will do good for individual members (Japanese look at links first and then come back to themselves). In contrast, Westerners start from themselves and expand to link with other entities.

However, the jury is still out on where things will end up. A recent Duke University report by Gary Gereffi, Vivek Wadhwa, et al, entitled "Framing the Engineering Outsourcing Debate: Placing the United States on a Level Playing Field with China and India", brings factual data to counter alarmist claims in typical articles that stated that in 2004 the United States graduated roughly 70,000 undergraduate engineers, while China graduated 600,000 and India 350,000. The report concludes that "a comparison of like-to-like data suggests that the U.S. produces a highly significant number of engineers, computer scientists and information technology (CS/IT) specialists, and remains competitive in global markets". The normalized numbers for Total Bachelors and Sub-baccalaureate Engineering, CS/IT Degrees is 222,335 for the US, 215,000 for India, with China at 644,106. Normalized to bachelor's and sub-baccalaureate degrees awarded per million citizens, the United States is producing roughly 750 technology specialists, compared with 500 in China and 200 in India.

In addition to skilled engineering resources, business transformations driving companies today give them little option but to adopt a global perspective on mobilizing resources, knowledge and skills independent of geographical and cultural boundaries. Political ideology is also yielding to such economic realities in an irreversible way. Given the collaboration networks at play today, it is difficult to classify a given product or even product lifecycle phases as belonging to the East or West. Competitive advantage today is determined by how companies can rapidly adapt and restructure themselves and their processes to meet market demands; how they can set up collaborative processes that ensure local autonomy while maintaining overall cohesion, and quickly dismantle and re-organize themselves to meet new and unanticipated changes. Competitive advantage in gained through innovative collaboration processes, and realized by how flexibly an organization can deal with autonomy at a process level and change at a macro level.

Dealing with "change" is instinctively difficult for us humans. So it is easy to gloss over it. In the CIE community, research in product collaboration today focuses a lot on information/ process representation considerations. But we rarely reflect on the difficulty in moving an "organization" from one information/ process state to another – the so-called 'soft issues". But unless this is comprehensively handled many of the enabling technologies will fail to successfully yield their purported benefits. We need to infuse our engineering practice

and research efforts with more systems thinking at a global level; business drivers and implementation challenges cannot be thrown "over the wall" – the implications have to be fully analyzed and applied as key requirements within our practice, execution and research efforts. The CIE challenge is not to just come up with new representations and methods to address problematic use cases, the challenge is to innovate representations, methods and solutions that accommodate the pace of implementation, and yield increasing value as more change is absorbed, but also yield value if no change occurs.

Recognizing these issues, the ASME CIE Division (http://divisions.asme.org/cie/) is reaching out to its international membership and the general audience by collaborating with important professional conferences held outside the U.S., with the following goals:

- Actively serve the international and U.S. members by providing ASME member level access to relevant International conferences organized by organizations and forums other than ASME.
- Promote and disseminate advances in CIE technologies, processes and approaches
- Foster global collaboration between professionals devoted to CIE, especially those that cannot afford to travel to CIE events in the U.S. and establish a strategy to enhance future collaboration between a global network of professionals in this domain,
- Attract additional international membership to ASME CIE
- Provide additional outlets to the ASME membership to publish the results of their work, and share their knowledge.

The main goal is to foster global collaboration between professionals devoted to the domain of computers and information in engineering, especially those that cannot afford to travel to CIE events in the U.S.A., and to build a global network of professionals in this domain. It is also the goal to attract additional international membership to ASME CIE Division, to provide additional outlets to the ASME membership to publish the results of their work and share their knowledge, and to promote and disseminate advances in

CIE technologies, processes, cultures and approaches. The CIE Division supports non-ASME conferences by promoting their Call for papers, distributing conference information among the members of the division, establishing links to websites, delegating keynote and panel members, participating in reviews and sessions, and setting up workshops and tutorials. Supported conferences are entitled to display ASME CIE logo in prominent places, but there is no financial commitment from each side. To date, five conferences have been approved:

- The Sixth International Symposium on Tools and Methods of Competitive Engineering (TMCE 2006);
- International Conference on Product Lifecycle Management - PLM July 10-12, 2006, Bangalore, India;
- The 13th ISPE 2006 International Conference on Concurrent Engineering Research & Applications, September 17-22, 2006, Antibes, French Riviera;
- Interoperability for Enterprise Software & Applications Conference - IESA 2007, March 2007, Portugal; and
- The 2006 IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA06) to be held on August 13-16, 2006 in Beijing, China.

If you would like to nominate conferences for consideration, please contact Ravi Rangan at rrangan@centric-software.com.

Sixth International Symposium on Tools and Methods of Competitive Engineering (TMCE 2006)

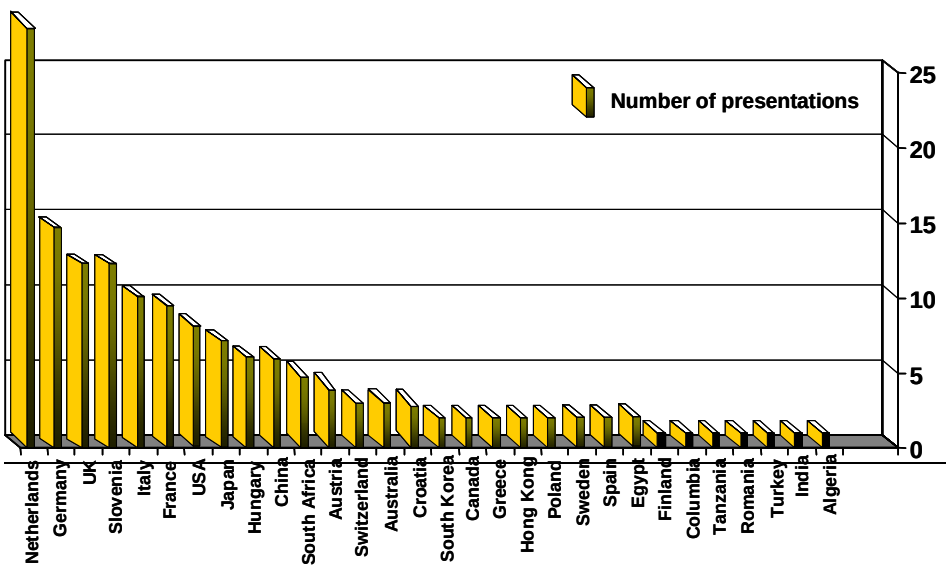
Submitted by: Imre Horváth, Delft University of Technology

The TMCE 2006 Symposium was held in Ljubljana, Slovenia, from 18th to 22nd April 2006, and was jointly organized by the Faculty of Industrial Design Engineering, Delft University of Technology, Netherlands, and the Faculty of Mechanical Engineering, University of Ljubljana, Slovenia. TMCE 2006 is a digitally organized Symposium, supported by a web site (http://www.tmce.org/), a conference management system, a project management system, and a financial management system. The professional program of TMCE 2006 included eight industrial tutorials, a plenary opening session, eight keynote talks, 24 technical paper sessions, a plenary poster session, a plenary discussion panel, and a closing workshop. The Proceedings of the Symposium are published in a two-volume book, containing ten invited papers, 92 podium papers, and the two-page executive summaries of the accepted 50 poster papers. The podium papers were presented in four streams: industrial design engineering, competitive product development, competitive product realization, and operation in virtual enterprises. The purpose of the executive summaries was to give the interested participants a quick

insight into the topics of the posters before the plenary session took place and, this way, to initiate sensible professional discussions with authors.

The included CD-ROM accommodates all invited, podium and poster papers in full length as well as a file manager program. The published papers were selected from a total of 257 submissions, after each contributed paper had been reviewed by four peer reviewers. The TMCE Symposium is a non-profit organization and the major concern of the organizers was the quality of the program and the contributions.

The mission statement of the series of TMCE Symposiums is: … aggregate scientific, engineering, technological and practical knowledge for design and realization of competitive products and facilitate knowledge transfer between the academia and the industry. The general topic of TMCE 2006 was: 'Technological innovations for competitive product development'. Technologies were considered in the widest sense, from human technologies through knowledge technologies and product technologies to process technologies, but advanced information and communication technologies were dominating. Representing the ASME CIE Division, Prof. Dr. Karthik Ramani (Purdue University) and Dr. Louis Komzsik (UGS), and Dr. Ravi Rangan (Centric Software, Inc.) and Prof. Dr. Shuichi Fukuda (University of Tokyo) were invited as keynotes and panel member, respectively. The presented podium and poster papers shed light to the multidisciplinary nature of product design and development, to the critical role of information and knowledge processing in engineering and business processes, and to the necessity of a scientifically rigorous multidisciplinary research in product design and development processes. TMCE recognizes the best senior and the best junior contributions with a plaque and free participation. A strong point of the TMCE Symposiums is that selected papers are reworked for and republished in journals. Over the years five special issues have been published based on TMCE papers and four are in preparation.



The first International Symposium on Tools and Methods of Competitive Engineering was held in Budapest, Hungary, in 1996. Since that, it was organized in Manchester (England), Delft (Netherlands), Wuhan (P.R. of China), and Lausanne (Switzerland) (see Table above). The biennial Symposiums attract more and more participants from the industry, government and academia, and are becoming a leading professional forum not only in Europe, but worldwide. For TMCE 2006, papers were submitted from 30 countries (see Diagram below). Uniquely, TMCE offers not only a rich professional program, but also entertaining and community-forming social functions for each day. Early bird reception, reception offered by the mayor of the hosting city, reception presented by the Symposium's co-chairmen, Gala Dinner, cultural evening, and excursion are typical social functions, keeping the people together and providing innumerable opportunities for networking. Taking everything into account, TMCE provides a lot of values for a reasonable registration fee.

The Seventh International Symposium on Tools and Methods of Competitive Engineering (TMCE 2008) will be held in one of the most attractive tourist sites of Turkey, Kusadasi (nearby Izmir and Aydin), from 21st April to 25 April 2008. The TMCE 2008 Symposium will be jointly organized by the Middle East Technical University, Turkey, and the Delft University of Technology, the Netherlands. The topics of TMCE 2008 will be: 'Collaboration or competition between East and West?'. The Symposium will begin with industrial tutorials and will have strategic plenary sessions with invited keynote speakers from academia, government and industry, parallel technical sessions and panel discussions on the Symposium theme. The Proceedings of the Symposium will be published in a book and on a CD-ROM, and a set of selected papers in special issues of international journals. Professionals of the CIE Division are being asked to deliver tuto-

rials, keynote speeches, and to take part in discussion panels. Various social events are planned such us reception by the Mayor of Kusadası, Gala Dinner in the Pine-Bay Hotel, cultural program in Ephesus, visiting the House of Virgin Mary, vine tasting in the authentic village Şirince, and excursion to Pigeon Island and town center. It has been discussed with, and agreed by the organizers of TMCE 2008 that there will be an ASME stream of sessions organized, focusing on computers and information in engineering collaboration, in addition to the regular four streams of the Symposium. The deadline for submission of extended abstracts (500 words) is 30th April 2007, and the deadline for full papers is 30th August 2007. The technical papers will be presented as podium papers and poster papers. Four reviewers will referee each technical paper. For further information please visit the website of TMCE 2008 at: www.tmce.org/.

Interoperability for Enterprise Software and Applications Conference

I-ESA'07, 26 - 30 March, 2007
Madeira Island - Portugal

Submitted by: Ricardo Goncalves, UNINOVA, New University of Lisbon, Portugal

Initiated in 2005 by two major European research projects of the 6th Framework Research and Development Programme of the European Commission, the ATHENA IP (Advanced Technologies for Interoperability of Heterogeneous Enterprise Networks and their Applications, Integrated Project) and the INTEROP NoE (Interoperability Research for Networked Enterprise Applications and Software, Network of Excellence), the I-ESA conferences have been recognized to lead and generate an extensive research and industrial impact in the field of interoperability for enterprise software and applications.

I-ESA brings together the world's leading researchers and practitioners in the area of enterprise interoperability, and it is a unique forum for the exchange of visions, ideas, research results and industrial experiences, dealing with a wealth of interoperability research subjects for business, enterprise applications and software.

I-ESA only accepts full paper submissions, and all are subject to an international scientific review. The selected papers will appear in the Conference Proceedings book, published by one recognized international publisher with ISBN registration.

Would you be interested to organize a session or a workshop, submit a paper or have any other active collaboration with the I-ESA'07, please send promptly your expression of interest by email to the I-ESA'07 General Chairperson.

The I-ESA'07 conference offers you a unique opportunity. Do not miss it…

We are looking forward to welcome you at I-ESA'07, in Madeira Island (Portugal), the Floating Garden… the Pearl of the Atlantic…

Conference General Chairperson, Prof. Ricardo Goncalves, New University of Lisbon, UNINOVA, Portugal, e-mail: rg@uninova.pt

Conference International Programme Committee Chairpersons:

- Prof. Kai Mertins, Fraunhofer-IPK Institute for Production Systems and Design Technology, Germany,
- e-mail: kai.mertins@ipk.fraunhofer.de

International Conference on Product Lifecycle Management, 2006 (PLM'06)

Bangalore India.July 10-12, 2006.
http://www.cpdm.iisc.ernet.in/plm06

Submitted by: Balan Gurumoorthy, Indian Institute of Science, Bangalore, India

This is the third in this conference series. The first was conducted in Bangalore, India as a symposium, jointly by University of Michigan, Ann Arbor and Indian Institute of Science (IISc), Bangalore. The success of this event and the large and growing interest in the PLM field led us to run PLM'05 (in Lyon, France) as an international conference. This was organised by the Université Lumière Lyon 2 in collaboration with University of Michigan and IISc. The objective of this conference series is to bring together researchers and practitioners involved in product innovation, product development and product delivery together in one forum to share their viewpoints on new product development, lifecycle management and supply chain.

This year the conference returns to Bangalore, India. The organising team has an addition in the form of Korean Advanced Institute of Science and Technology (KAIST), S. Korea. The conference will have paper presentations with a separate application track for papers describing interesting applications and case studies. There will also be a industry panel session. A product showcase session (five companies already committed) consisting of product presentations is also planned. Nearly seventy papers were received of which twenty-five have been accepted for presentation and another seven have been accepted as industry case study or application. The bulk of the papers accepted are from India (11), Rest of Asia (6) and Europe (11). The balance is from America (3) and Africa (1). The topics discussed in these papers also cover a broad spectrum of topics from information models for PLM, collaboration, knowledge management, framework and architecture, lifecycle assessment and portfolio management.

The conference was started when PLM as an area of research was seeking an identity and more importantly a community in academia. Defining the research agenda for PLM therefore remains an important goal of the conference. As we consider the papers this year with those in the last two events, the number of papers that describe research (as opposed to development) is showing a marked increase. Papers from the last two PLM conferences that had archival value or potential have been reviewed and published in CAD, International Journal of PLM and International Journal of Product Development. This year papers to be presented at the conference will also be considered for possible publication in the ASME Transaction, JCISE in addition to the above journals.

The venue, of this year's conference, itself - India (and Bangalore in particular), has made an identity for itself as a major IT centre. Bulk of the PLM development (by the major developers) is currently happening in India. Bangalore is also home to several companies that are

providing services in the PLM space to organisations worldwide. Bangalore therefore is a good place to get both developers and practitioners/service providers in this space together in one place to interact with academia to set an agenda for future research and development in PLM.

Interest in this conference series is growing. We are expecting the collaboration with the CIE division of ASME to further increase the awareness of the conference, in particular among its members. Hopefully it will result in increased submissions and participation from researchers and industry from among the CIE members.

Planning for the next two events in these series is already in motion with the conference moving to Milan, Italy for July 2007 and to Seoul, South Korea for July 2008.

International Design Research Symposium

November 10 – 11, 2006
COEX Intercontinental Hotel,
Seoul, Korea

Submitted by Prof. Shuichi Fukuda, Tokyo Metropolitan University, Japan

The Creative Design and Intelligent Tutoring Systems (CREDITS) Research Center, Sungkyunkwan University, Korea, and the Design Engineering Division of the Korean Society of Mechanical Engineers will jointly hold an international symposium on design research.

The intent is to hold a forum for discussions and collaborations for researchers and practitioners in engineering design, industrial design, architectural design, design cognition, design informatics and design education all together so that the interdisciplinary aspects of design will be fully accommodated.

The symposium will include keynote speeches, general paper presentations, and panel discussions, as well as pre or post symposium workshops, from prominent design researchers and practitioners.

Symposium Chair: Yong Se Kim, Director, CREDITS Research Center, Sungkyunkwan University, Korea,
yskim@skku.edu
http://credits.skku.edu

Report on ASME Leadership Training Conference

March 3-5, 2006,
Houston, TX USA

Submitted by: Fred Proctor, NIST, Gaithersburg Maryland USA

ASME held its annual Leadership Training Conference (LTC) in Houston in March. This was the first LTC by name, since the LTC replaces the Technology Executives Conference (TEC) that had been held for many years. The purpose of the LTC is to give ASME leaders, particularly new ones, an overview of the organization, how it works and what services it provides. It is also boosts enthusiasm among leadership, acknowledging that ASME is a volunteer organization and it is important to keep everyone active and involved.

A focus of the LTC was ASME's new alignment into five sectors: Knowledge and Community, Codes and Standards, Centers, Institutes and Strategic Management. ASME also is looking in five key market directions: Young Engineers, Industry, Government, Globalization and New Revenue Generators. Funding sources have taken on more importance since ASME has decided to eliminate direct funding for Sections. ASME has added a third funding source, "ASME Strategic Priorities Grant Fund (SPGF)," to the existing Development Fund and Foundation Grants. The SPGF typically funds up to $50K for one-year projects, although higher amounts and durations up to three years are possible. For information on the SPGF, see the "Program Funding Options" link on the ASME main web page www.asme.org.

Marketing CIE products will be important for our long-term viability as a Division. CIE products include courses and tutorials, but could include anything of value related to CIE. The LTC stressed that we should be thinking about product lines rather than individual products, such as a tutorial portfolio. Frank Adamek described the Houston Section's success building a revenue stream by growing a training portfolio. They began by holding training classes in Pressure Vessels and Piping, a technical area of great interest to the Houston-area oil and gas industries. They made money, and followed up with Turbine Machinery, then Seals, and now have a portfolio that gives them enough profit to fund scholarships with the interest earned. Questions to be answered when developing products include:

- Does the product provide enough benefit to an existing market?
- Is it a good fit with current products?
- Does it utilize current experience and reinforce current market position?
- Is it well suited for existing promotion and distribution channels?
- Is it competitive in quality and performance?
- Does it raise liability or intellectual property concerns?
- What is the price? Will it produce enough revenue or profit?

Communication was a big theme of the LTC. ASME has redone the web page, is stressing the Communities of Practice (COP), and puts out many print- and electronic communications. For example, Inter-Comm is a quarterly newsletter for ASME volunteers, specifically targeted at the LTC audience. The Applied Mechanics Division has tried forums (like the Communities of Practice), Wikis (egalitarian editable web pages) and web logs or blogs, and decided that blogs are the best. They use blogger.com for their communication. Students suggested using RSS feeds to push data rather than requiring that members pull it.

We would like to hear from you on the subjects of CIE products and improving communication to our members. Specifically, we are asking you:

1. What products or product portfolios would you like to see CIE make available?
2. How can CIE communicate better with you?
3. How can we get more industry participation in CIE?
4. How can we partner better with other Divisions and local Sections?

Please respond to Fred Proctor at frederick.proctor@nist.gov with your ideas.

JCISE completes 5 years of publishing!

Submitted by: Jami J. Shah, Editor, JCISE

In March 2006 JCISE celebrated its 5th anniversary. Since our first issue came out in March 2001, we have produced 20 issues containing 217 articles, of which 170 were full length research papers. Our average review time is around 2.5 months and the overall acceptance rate after 2 review cycles is around 35%. Paper submissions have climbed at a steady rate of 15-20% a year. Since our page quota is fixed (400 pages max annually) and our acceptance rates have not changed significantly, our backlog of accepted papers waiting to be published has grown to about 6-9 months. This is a healthy number since it allows journal publication to proceed on time.

In 2005 we gained a new sponsor: the Design Engineering Division (DED) of ASME became a full partner with the CIE Division to sponsor JCISE. As part of the agreement, DED gets 2 seats on the JCISE advisory board that is responsible for setting policies and approving associate editors. Profs. Bahram Ravani and Alan Parkinson are currently DED's representatives and, as per agreement, the Chairmanship of the advisory board now rotates to DED. Prof. Ravani will be Chair for the current year. We look forward to strengthening our ties with several of DED's technical committees, particularly the Design Automation, Design for Manufacturing, and Design Theory & methodology. Best papers from their respective conferences will now have two avenues for journal publication: this journal (JCISE) and Journal of Mechanical Design.

We thank all authors, reviewers and particularly the associate editors who do the bulk of the work. Almost the entire group of founding associate editors is gone after having completed the maximum of 2 terms permitted by ASME. Drs. Ravi Rangan and Simon Szykman, our Application Track associate editors, have just completed their terms, as have Profs. Paul Wright and Kunwoo Lee. We thank all of them for their valuable service. New appointments in 2005 included Dr. Jan Vandenbrande of Boeing in the area of geometric modeling, Prof. Jim Oliver of Iowa State in Virtual Environments, Dr. John Michopoulus of Naval Research Labs in Simulation, Prof. Leo Joskowicz of Hebrew University in AI/KBS. Also, starting in 2006 we added Prof. SK Gupta of U. Maryland in the area of CAM/CAPP and Dr. Sean Callahan of Boeing Company for engineering informatics.

I have also completed my 5 year term as this journal's chief editor. Recognizing that JCISE is at a critical juncture in its evolution, I have accepted a second term and I thank CIE and DED Executive Committees for their vote of confidence. We certainly need to maintain the high quality of the journal, continue to grow submissions and subscriptions, and to bring expose new related communities to JCISE. We need to consolidate our relationship with DED and attract more good papers from that community. The challenge is to maintain the sharp focus we currently have on research that has applications in mechanical product development. Additionally, statistics computed by formulas created by citation services have come to pass as "quality measures" of journals. I will refrain from commenting on how well these measures actually represent quality, but they have become a fact of life in the publishing world. In 2004, JCISE was accepted into several major citation indices, such as the Extended Science index. We now need to keep an eye on these numbers as they become available and take steps to do well in comparison to our peer journals, despite the disadvantage of size (number of pages published annually).

We also welcome Prof. Rich Riesenfeld, School of Computing at University of Utah, as a new member of the JCISE advisory board. He is well known for his pioneering work in computer aided geometric design, a term that is often attributed to him. He will be replacing Prof. Chris Hoffman as one of the at-large members. Prof. Hoffman service to JCISE for the past 5 years has been invaluable and I thank him for his contributions. The other at-large position will be filled by Prof. Paul Wright of UC Berkeley. Prof. Wright is no stranger to JCISE. He is well known for many innovations in the CAM area, the most recent of which is exploiting the power of the Internet to provide manufacturing services.

I invite the CIE community to continue to send us their best papers from CIE conferences, as well as, to consider JCISE for publishing any other quality papers . Thank you.

Recognize Your Peers -- Nominate a Fellow

Submitted by: Simon Szykman, National Coordination Office for Networking and Information Technology R&D, USA

The CIE Division would like to support the recognition of its members by encouraging the nomination of deserving and eligible members to the level of ASME Fellow. The title of ASME Fellow is the highest elected grade of membership within ASME, and is recognition of exceptional engineering achievements and contributions to the engineering profession.

In order to be eligible for nomination, an ASME member must also have had 10 or more years of active practice and 10 or more years of continuous membership in ASME, or 20 or years of active practice and 5 or more years of continuous membership in ASME. In addition, a nominee must be sponsored (recommended) by at least five sponsors, at least two of which must be ASME Fellows or Members.

Criteria for significant engineering achievement fall into any of several categories: design, engineering product application, research and development, education, project management, industrial leadership/management, leadership in engineering profession, codes & standards, or engineer/statesman.

Elevation to the grade of ASME Fellow is an honor and recognition of a member's contributions to the profession. If you know somebody who deserves this recognition, please nominate them today. Additional information about Fellow grade, evaluation criteria, nomination forms, and more can be found at http://www.asme.org/Governance/Honors/Fellows/Fellows.cfm or can be requested from Fran McKivor at (212) 591-7094 or fellows@asme.org.

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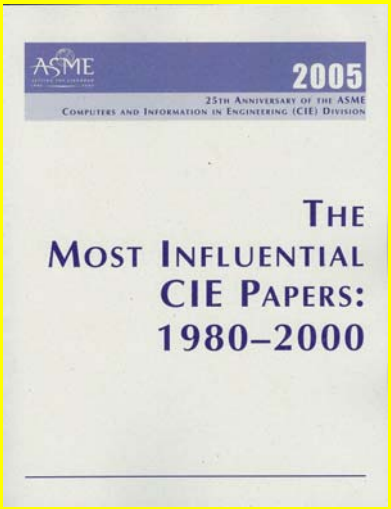

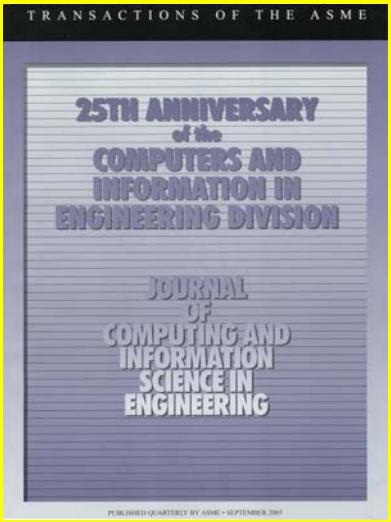

Your colleagues at the 2005 CIE Conference in Long Beach, CA, USA

Additional information is available through The 25th CIE conference website: (http://divisions.asme.org/cie/history/25thanniversary/conferences/2000s/2005/CIE2005.htm).

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