ASME
SETTING THE STANDARD
1880 2005

Design Engineering Division

DED NEWSLETTER 2004
Kon-Well Wang, Editor
Chin An Tan, Assistant Editor

http://www.asme.org/divisions/ded

Nine Elected to Fellow Grade

At the time of this writing (January 20, 2004) nine members of our Division have been elected to the Fellow grade of membership since July 1, 2003. Congratulations to Ichiro Hagiwara, Larry Howell, Roy Johnston, Norman McCombs, Achille Messac, Beal Moore, Charles Reinholtz, Alexander Slocum, and Charles Wampler II.

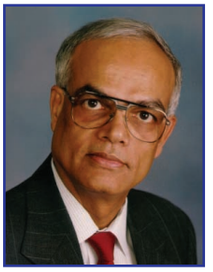
Last year in this column I said each of our Technical Committees should set a goal of nominating at least one Fellow. I hope that one or more of the above Fellows were nominated by one of our committees. For those who may not be aware of the new nomination forms and procedures please check www.asme.org/member/fellow.

The Fellows Review Committee (FRC) has a study underway to have some sort of formal recognition event at the Congress each year for newly elected Fellows. At this past Congress, new Fellows were invited to be guests at the Honors and Awards Banquet and 36 took advantage of the offer. I have started a three-year term as your representative on the FRC. If I can assist anyone in the nomination process, contact me at hirschr@asme.org.

Richard A. Hirsch, PE

Message from the Chair

In the article 'Turn on the Light' (*Mechanical Engineering magazine, 2004 Design*) Jean Thilmany points out that the first development of mechanical design principles can be traced back to 1420s. According to historians, Filippo Brunelleschi, a Renaissance architect developed a six-step process to design the cupola for Santa Maria del Fiore in Florence, Italy. In the past 30 years or so, with the advent of CAE and CAD techniques, 'mechanical design' has changed forever and encompasses a wide range of modern and still developing areas in engineering and applied science.



Subhash C. Sinha

The Design Engineering Division (DED) of ASME has emerged as the largest division of the Society consisting of over 36,000 members. It is also one of the most successful divisions that organizes a large set of conferences under the umbrella of the *International Design Engineering Technical Conferences*, or IDETC. The last IDETC, held September 2-6, 2003, in Chicago attracted a large number of quality papers and attendees from around the world in all areas of design and dynamics. I would like to express my sincere thanks to Ahmed Shabana who served as the General Chair. There are twelve technical committees within the Design Engineering Division. These are: Design Automation Committee, Design Education Committee, Design for Manufacturing Committee, Design Theory and Methodology Committee, Fastening and Joining Committee, Mechanism and Robotics Committee, Multibody Systems and Nonlinear Dynamics Committee, Power Transmission and Gearing Committee, Reliability, Stress Analysis, and Failure Prevention Committee, Student Affairs Committee, Vehicle Design Committee, and Vibration and Sound Committee. I would like to take this opportunity to thank the Chairs of these committees for volunteering their time and doing an exceptional job. Currently we are in the process of setting up a committee on Micro and Nano Systems. Three ASME journals, viz., Journal of Mechanical Design, Journal of Vibration and Acoustics and Transactions on Mechatronics (jointly with IEEE) are affiliated with the Design Engineering Division. Mike McCarthy (Technical Editor, JMD), Larry Bergman (Technical Editor, JVA), and Ren C. Luo (Editor-in Chief, Trans. Mechatronics) deserve appreciation from all of us in keeping the journals running smoothly. Keeping in mind the changes that are occurring at ASME, the DED has developed a strategic plan complete with new 'vision' and 'mission' statements. I thank the outgoing Chair Bahram Ravani for doing an outstanding job in putting this together. It is posted on our web site: http://www.asme.org/divisions/ded.

Our mission is to promote and support the professional success of our members whether they are in academia or in industry. As the Chair of the DED I personally invite you to get involved in the committees and conferences that suit your needs best.

Please take a look at the strategic plan and send me your comments. We also organize short courses that are well received by people in industries as well as those in academia. These are regularly advertised in the conference programs. If you would like to organize a short course yourself or like the DED to arrange a short course on some relevant topic, please drop us a line. Apart from this newsletter, you will also find all the information on our web site mentioned earlier.

I believe that, with your help, the Design Engineering Division will continue to grow and serve as a model division that others would like to emulate. The future is bright but we have to keep moving ahead and all 36,000 of us have to play our roles.

Subhash C. Sinha

Greetings from the Past Chair

It was a great pleasure for me to serve as the chair of the division during the past year. The Design Engineering Division is an exemplary division of the society due to the many excellent people who have been involved in the past and at the present with the division. I am confident that the trend would continue and that our division would evolve and enhance with new challenges facing engineering in general and design engineering in particular. Much of my efforts, in the last two years, both as the vice chair as well as the chair of the division have focused on developing and updating a new strategic plan for the division that would enable us to overcome the challenges and enhance our activities. This strategic plan is posted on our web site: http://www.asme.org/divisions/ded.

For our activities to continue its success we need to ask ourselves the following questions: Are important technical work, enterprise work, and innovations coming out of our activities? Are we covering all relevant important areas? Are we properly serving our members: academics, students, government employees, and practicing engineering communities? Do we reach to interdisciplinary areas by teaming within and outside engineering? Do we identify, recognize, and embrace new and evolving areas? Do the top people in the field remain involved with the activities of the division? Do our journals & conferences publish the most important developments in the field? Do our awards recognize the top developments and the leaders in the field? Are we developing the needed resources and the enterprise models to support and evolve our activities? These questions can be viewed as a basis for a set of metrics for our division's activities.

During the past year, we have also appointed a few special committees to undertake new initiatives in our division to achieve some of the elements of our new strategic plan. These include a "Special Committee on National Certification or Registration for Design Engineering" and a "Special Committee on Developing an Industrial/ Government Advisory Board for the Division". We have also developed a rotation plan for establishing liaisons with other divisions of ASME and with council on codes and standards, council on education, and council on government affairs.

There are, however, many remaining tasks that need to be initiated to reach our strategic and tactical goals. The division retreats that we have now started on a biannual basis and the establishment of an industrial board of advisors for the division can help us in developing schemes to reach our goals and better prepare for the future. Meanwhile, we still need to address the following issues: codes and standards for design engineering practice; recruitment and retraining tools and workshops for practicing design engineers; standards and requirements for design engineering education (Design Education Certification); Design Engineering Certification; developing a process for attracting graduate students; developing or participating in a national student design competition; developing methods for attracting industry people; finding ways and developing a process to increase diversity within the division; and developing a process for recruiting and retaining members.

Bahram Ravani

The Journal of Mechanical Design

The Journal now publishes over 120 refereed articles each year in six bimonthly issues. Authors from around the world, representing every technical committee of the Design Engineering Division, use the ASME journal tool to submit papers electronically.

Our goal of a six-month review cycle was achieved on average for the almost 400 papers submitted in 2003. This required our design research community to generate over 1000 reviews for our team of 18 associate editors. This level of effort, both by authors and the reviewers, is the foundation for continued success of the journal.

Please take a moment to share your recommendations with the Editor or any of the Associate Editors by email, or in person at the Design Engineering Technical Conferences in Salt Lake City in September 2004.

Mike McCarthy

The 2003 IDETC & CIE Conference

The 2003 International Design Engineering Technical Conferences and Computer and Information in Engineering Conference was held in Chicago, Illinois at the Chicago Marriott Downtown Hotel during September 2-6, 2003. The 2003 conference included the sub-conferences: 19th Biennial Conference on Mechanical Vibration and Noise (VIB); 29th Design Automation Conference (DAC); 15th International Conference on Design Theory and Methodology (DTM); 17th Reliability, Stress Analysis and Failure Prevention Conference (RSAFP); 8th Design for Manufacturing Conference (DFM); 23rd Computers and Information in Engineering Conference (CIE); and the 9th International Power Transmission and Gearing Conference (PTG).

The Engineering Technology & Management group of ASME also participated in the conference for the first time. The conference set a record number of more than 1000 paper submissions. The conference had more than 840 scheduled papers and presentations, several keynote lectures, panel sessions, special events, tutorials, and exhibits. A reception was held on Thursday evening at the Chicago Museum of Science and Industry. The entire museum was open for the conference attendees and their families.

Ahmed A. Shabana

Committee Reports

Design Automation Committee

The Design Automation Committee (DAC) is organizing its 30th conference at the IDETC in Salt Lake City this September/ October. For this milestone, the longest running design conference of ASME (and probably the longest of any mechanical design conferences), the committee invites all the past contributors to the Design Automation Conference, and all interested practitioners, developers and researchers to consider attending. Design Automation encompasses all aspects of automation of the design process, which can be grouped under the headings design representation (CAD), design optimization, and design integration.

Everyone will agree that the use of the computer for representation, for integration and for optimization has revolutionized the way products are designed. In the past thirty years, design automation has contributed to facilitating redesign through the use of CAD, shortened the time to market through data reuse and management, pushed the performance of products through virtual prototyping and simulation, and increased the quality and functionality of artifacts through optimization, integration and analysis. Current emphases on virtual prototyping, simulation based design, and optimization under uncertainty among others, continue to shape the way we design.

Please come and support the conference participants, listen to the latest advances, and voice your opinion on how to continuously improve or develop the practical and robust automation tools and methods that help you today and that will help you in the future.

Georges Fadel

Design for Manufacturing

The mission of the DFM committee is to disseminate practices, theories, and computational methods dealing with all areas of design and manufacturing integration amongst the engineering community as well as to encourage the growth and recognition of the value of design and manufacturing integration. The committee participates in three conferences per year: the ASME International Design Engineering Technical Conferences, the International Mechanical Engineering Congress and Exposition, and the National Manufacturing Week Conference in Chicago. Topical areas include DFM methods (DFM, DFA, DFX, FMEA, QFD, SMED, etc.), design and manufacturing strategy, integrated product and process development, environmentally conscious manufacturing, integrated assembly design and planning, robust design and variation management, and others. More information can be found at the web site of the committee, http://www.isr.umd.edu/Labs/CIM/DFM/.

The DFM Committee is open to anyone interested in its activities. For more information please contact Professor David Kazmer, Department of Plastics Engineering, Univ. Mass. Lowell, 1 University Ave., Lowell, MA 01854; david_kazmer@uml.edu; phone (978) 934-2962; fax (978) 458-4141. Or contact Satyandra (S.K.) Gupta, Mechanical Engineering Department and Institute for Systems Research, University of Maryland, College Park, MD 20742; skgupta@eng.umd.edu; phone (301) 405-5306; fax (301) 314-9477.

David O. Kazmer

Design Theory and Methodology Committee

The 15th International Conference on Design Theory and Methodology was the largest ever, with 98 submissions resulting in 56 papers presented. Robust international support has been a main factor in this growth, with submissions from outside the U.S. accounting for nearly half of the total. The conference ran twelve full sessions to large audiences at the Chicago Marriott. Conference Chair Clive Dym and Papers Chair Linda Schmidt are to be congratulated for a smooth conference, from the first-time use of electronic submission and review (thanks go to Jami Shah and his ASU team), to Erik Antonsson's plenary lecture, and to the engaging technical sessions. The Xerox Best Paper award went to Vasu Ramaswamy and Vadim Shapiro of the University of Wisconsin at Madison. We look forward to continued success in Salt Lake City with Linda Schmidt moving up to Conference Chair and Yan Jin taking over as Papers Chair. In other news, Rob Stone has updated the DTM website (http://www.me.washington.edu/~asmedtm/) with a great new look and new content as well. Elections for the DTM executive committee will be held at the 2004 IDETC in Salt Lake City.

Bill Wood

Technical Committee on Fastening & Joining

The Fastening and Joining Technical Committee of the Design Engineering Division serves the ASME membership and others who are interested in novel developments related to fastening and joining of polymeric, metallic, ceramic and other advanced materials. The activities of the committee were recently revitalized with a 'Symposium on Advanced Joining Technologies for Transportation Vehicle Structures,' organized by S. Jimmy Hwang, Raju Mantena and Ronald Gibson at the 2003 IMECE in Washington D.C. The symposium, co-sponsored by the Structures and Materials Committee of the Aerospace Division, was well attended with twenty papers presented in four sessions. Topics covered innovations in adhesives technology, cost effective and rapid joining methods, repair of ballistic impact damaged composite laminates, and non-destructive evaluation of bonded joints.

The annual committee meeting was also held at this conference with 13 members from academia and industry in attendance. The committee currently has 14 active members (7 from industry and 7 from academia), and 10 potential members with research and development experience related to fastening and joining technologies have shown an interest in our activities. Our goal is to broaden the expertise of the committee by recruiting more members from a variety of fastening and joining areas. The committee welcomes experts and distinguished researchers to participate and become active members. Plans have been made for the symposium at the next IMECE in Anaheim in 2004 with the theme 'Joining Technologies for Advanced Materials and Structures.' Dr. Joe Kuczynski, IBM; Prof. Ahmed Al-Ostaz, University of Mississippi; and Prof. Ronald Gibson, Wayne State University are organizers for this symposium, which in addition to the topics covered in the 2003 symposium has invited papers on long-term durability, dynamic mechanical behavior, new test methods and design guidelines. More involvement of our technical committee at the National Manufacturing Week (Dr. Stan Rak, Motorola) and at the ASME Design Engineering Technology Conference (Dr. Matt Hansen, MTS and Dr. Jan Klett, Technical University-Berlin) was planned. Prof. Raju Mantena, University of Mississippi was unanimously elected Secretary; and will be the Chair of the Committee starting July 1, 2004.

S. Jimmy Hwang

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Mechanisms and Robotics Committee

My term as the chairman of the Mechanisms and Robotics Committee officially started on January 1, 2003, when our committee was mourning the loss of our esteemed colleague and Past Chair, Prof. Lung-Wen Tsai, on November 29, 2002. We recently mourned the loss of another valuable scientist and great colleague, Professor Andy Yang. He passed away on November 21, 2003. Their loss will be felt dearly by the design, mechanisms and robotics community.

Currently our committee is undertaking the following activities and initiatives. They include, organizing the Mechanisms and Robotics Conference at the IDETC 2004 in Salt Lake City with the Conference Chair, Professor Larry Howell; organizing a technical session in the 2004 National Design Engineering Conference (NDEC)/National Manufacturing Week, with Professor Suresh Ananthasuresh in charge; redesigning our web pages to act as an e-community center for the mechanisms and robotics community, with Professor Hashem Ashrafiuon in charge. The new web site was activated on March 1, 2004.

Per the suggestion of the DED Executive Committee, we have developed two new subcommittees, the Nano-Mechanical Systems chaired by Prof. Constantinos Mavroidis and the Micro-Mechanical Systems chaired by Professor Suresh G. Ananthasuresh.

The Mechanisms and Robotics committee is planning to start a bi-annual electronic newsletter to keep our community informed of relevant news items and activities. The first issue was sent out in March 2004. Professor Venkat Krovi is the editor of this newsletter.

And finally the committee is currently considering and debating if the Mechanisms and Robotics Conference should become an annual event at the IDETC. Those interested in participating in the committee activities should contact: Kazem Kazerounian (Kazem@engr.uconn.edu), Mechanical Engineering Department, University of Connecticut, Storrs, CT 06269-3139.

Kazem Kazerounian

Multibody Systems and Nonlinear Dynamics Committee

The mission of the Technical Committee on Multibody Systems and Nonlinear Dynamics (MSND) is to foster experimental, symbolic, computational and analytical activities pertaining to multibody systems and nonlinear dynamics and control and other related areas. The committee consists of members from academia and industry. One of the main activities of the committee is to organize the biennial *International Conference on Multibody Systems, Nonlinear Dynamics and Control* as one of the International Design Engineering Technical Conferences.

The Technical Committee on Multibody Systems and Nonlinear Dynamics had its first meeting in Chicago on Wednesday, September 3, 2003, 7:30 AM - 9:30 pm, during the 2003 ASME Design Engineering Technical conferences. During the first meeting, the members of the committee approved the Operating Procedures, and elected Dr. Subhash C. Sinha as the Vice Chair and Dr. Kurt Anderson as the Secretary of the committee. The members of the committee agreed that the Chair (Dr. A. Shabana) and the Secretary (Dr. K. Anderson) of MSND will serve, respectively, as the Chair and Program Chair of the 2005 Fifth International Conference on Multibody Systems, Nonlinear Dynamics and Control, which will be part of the 2005 ASME International Design Engineering Technical Conferences. The members of MSND approved the formation of the following subcommittees (Conference Planning Subcommittee, Member Nomination Subcommittee, Publicity and Information Subcommittee, Award Subcommittee, Sponsorship and Industry/Government Subcommittee, and Fractional Dynamics Subcommittee).

MSND proposed introducing two new awards, the D'Alembert and Lyapunov Awards, for significant contributions in the fields of multi-body systems and nonlinear dynamics, respectively. The Design Engineering Executive Committee recently approved these two awards as Committee Awards as requested by the members of MSND.

The next meeting of the committee is scheduled to be in Blacksburg, Virginia during the period of July 25-29, 2004.

Ahmed A. Shabana

Power Transmission and Gearing Committee

The objective of the Power Transmission and Gearing (PTG) Committee is to promote the activity and education supporting the art and science of power transmission and gearing as related to the research, design, and development of processes, machines and manufacturing in the industry and academic community. The PTG Committee participated in the 2003 Design Engineering Technical Conference as a joint conference with the American Gear Manufacturers Association (AGMA). 130 papers were presented at the conference from 25 different countries. The PTG plans to participate in the 2005 International Design Engineering Technical Conferences Long Beach, CA, September 2005.

For more information, please visit our website at http://asmegear.eng.ohio-state.edu/. If you are interested in the PTG Committee activities, please contact David Lewicki (david.g.lewicki@grc.nasa.gov).

David Lewicki

RSAFP Technical Committee

The Reliability, Stress Analysis, and Failure Prevention (RSAFP) Committee of the Design Engineering Division participated in 2003 International Mechanical Engineering Congress and Exposition with a focus on "Failure Analysis/Prevention, Reliability Issues". Four sessions were organized with 17 papers, some of which were from overseas countries including Japan, Korea, China and Germany.

The RSAFP Committee also participated in the International Design Engineering Technical Conferences held in Chicago, Illinois, September 2-6, 2003, with 3 sessions. Topics included general reliability and failure analysis issues, and their relevance in design, including composites design, adhesives and adhesive bonding, including electronically conductive adhesives, ultrasonic welding, stress distributions in stepped-lap joints and their impact behavior, as well as bolted joints. Twelve papers were included in that program.

The RSAFP Committee will be participating in the 2004 IMECE, as well as in the International Design Engineering Technical Conferences to be held in Long Beach, CA, September 24-28, 2005.

Erol Sancaktar

Student Affairs Committee

The Student Affairs Committee is dedicated to serving the needs of the graduate and undergraduate members of the Design Engineering Division (DED). To that end we represent DED Student Members to the DED Leadership and we facilitate communications between student members of the DED and the DED membership at large.

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Committee Reports

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At the recent IDETC&CIE Conferences held in Chicago the Committee conducted a Graduate Student Focus Group Luncheon. The meeting was conducted as a brainstorming session with the goal to generate a list of potential activities for graduate students to be held at future IDETC&CIE Conferences. Why? Because graduate students are the future of our Division! Moreover, did you know that at the close of business on Tuesday, September 3, 2003, that there were 893 registered attendees at the Conference and that 272 of them were students—that is more than 30%! One of the major findings from this activity is that students are anxious to receive the CDrom proceedings at the Conference—so much that they are willing to forgo their current free registration and pay a reasonable registration fee. In addition, students would like to have a social activity to facilitate networking and socializing amongst themselves at the Conferences. Efforts are now underway to address these and other issues for the upcoming IDETC&CIE Meetings. A complete summary of the findings from the Focus Group Luncheon can be found on the Committee's website: http://www.engr.udayton.edu/faculty/amurray/graduate/. The Focus Group Luncheon proved to be very successful in that much needed input from our student constituents was obtained. Moreover, as a direct result of the Focus Group Luncheon, we now have three student members on the committee to represent the thousands of DED student members to the DED Leadership.

Another major activity of the Student Affairs Committee is the maintenance of the DED Student Center web site (linked to the Design Engineering Divisions homepage: http://www.asme.org/divisions/ded/index.html). The Purpose of the DED Student Center is to create a significant presence on the DED homepage that is informative and attractive to students. We encourage you to visit the DED Student Center. If you have any comments or suggestions to improve the site, please send them along to the Student Affairs Chair (pierrel@fit.edu).

The Student Affairs Committee actively seeks out opportunities to involve and serve our students. We do this by organizing student focused activities at the IDETC&CIE Conferences, performing various projects such as creating and maintaining the DED Student Center website or by serving on the ASME Student Design Contest Committee (this committee is responsible for creating and conducting the ASME Annual Student Design Contest: http://www.asme.org/students/Competitions/designcontest/index.html.)

If activities such as these appeal to you, we encourage you to become active on the committee by contacting the Chair, Pierre Larochelle, at the email address above and for more information regarding the DED Student Affairs Committee, please visit: http://www.engr.udayton.edu/faculty/amurray/graduate/.

Pierre Larochelle

Vehicle Design Committee

The committee is strongly committed to its objectives which are to facilitate dissemination of advanced knowledge and new technologies related to vehicle design among members of the mechanical engineering community through organization of ASME symposiums and other information exchange mechanisms. Advances in the areas of Vehicle Dynamics, Stability and Control of light and heavy vehicles, Vehicle Design, Off-road Vehicles Technology, Advanced Vehicle Control Systems, Vehicle/Road and Vehicle/Human Interactions, Crash Research and Occupant Safety, Weigh in Motion Technology, and Intelligent Transport Systems will be specifically emphasized.

The committee members met in Washington DC on November 16, 2003. The committee reviewed its activities and set new regulations for accepting new members.

The committee has organized a very successful symposium on "Advanced Vehicle Technologies" at the 2003 IMECE in Washington DC, November 2003. Five successful sessions, including 32 papers from academic, governmental, and industrial organizations, were included in this symposium. The attendance was above our expectation. Dr. Imtiaz Haque (Vice-Chair of VDC) was the co-principal organizer of all the sessions of this symposium.

The Vehicle Design Committee is organizing the 6th symposium entitled "Advanced Vehicle Technologies" to be held during the International Mechanical Engineering Congress and Exposition on November 14-19, 2004 in Anaheim, CA. Papers are invited on innovative analytical, computational, and experimental investigations in control, dynamics, and design of full vehicle systems and their sub-assemblies. Papers will address fundamental research, applied research, or successful implementations relating to light or heavy vehicle design and development. Dr. El-Gindy is the general organizer of the following six sessions. Session 1: Advances in Methods for Vehicle Systems Design; Session 2: Advances in Vehicle Systems Product Development; Session 3: Forensics and Safety Applications of Vehicle Design Tools; Session 4: Advances in Vehicle Systems Modeling and Simulation; Session 5: Advances in Vehicle Systems Dynamics and Control; Session 6: Advances in Vehicle Systems Testing.

All papers will be subjected to extensive review and the best paper will be selected; the authors of the best paper will receive the Best Paper Award at the opening of the 6th Advanced Vehicle Technologies Symposium in Anaheim.

Moustafa El-Gindy

Technical Committee on Vibration and Sound

The Technical Committee on Sound and Vibration (TCVS) provides leadership for promoting research and for disseminating knowledge in all areas relating to mechanical vibration, acoustics, dynamics and controls. TCVS consists of members from both academia and industry. One of its main activities is to organize the *Biennial Conference on Mechanical Vibration and Noise*, which is the lead conference during the odd-year ASME International Design Engineering Technical Conferences. In addition, TCVS sponsors reviewed paper sessions, lectures and panel sessions at the annual IMECE and the Design Engineering Show in Chicago. Further activities on disseminating information include interacting with the *ASME Journal of Vibration and Acoustics* on a twice per year basis when it presents its report to the committee. TCVS is also responsible for the selection of the J.P. Den Hartog awardee, given to an individual in recognition of lifetime contributions to the teaching and practice of vibration engineering, and the N.O. Myklestad awardee, given to an individual in recognition of a major innovative contribution to vibration engineering. The 2003 Den Hartog and Myklestad awardees were Professors *Vinod Modi* (deceased) and *Y.K.Cheung*, respectively.

Members and friends interested in participating in the activities of TCVS are invited to contact Professor Ray Han (rayhan@uiowa.edu, 319-335-5683), Department of Mechanical & Industrial Engineering, The University of Iowa, Iowa City, IA 52242. Please visit our website at http://www.me.psu.edu/tcvs/ for further information.

Ray P.S. Han

ASME Design Engineering Division

Executive Committee Roster, July 1, 2004 - June 30, 2005

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Design Engineering Division—A Technical Division of ASME

TEC 04—Products and Services, Bahram Ravani, Feb. 04

Division Vision and Mission

- **Vision Statement:**

  To be an agile and engaged division of the Society that keeps abreast with rapid changes in knowledge, technology, and global and societal needs in the field of design engineering.

- **Mission Statement:**

  To lead in fostering and promoting the art, science and application of Design Engineering as well as the professional careers of Design Engineers in Education, Research, and Engineering Practice.

Customers

- Members
- Technical Committees
- Design Educators
- Design Professionals and Practicing Engineers
- Students
- Industrial Organizations and staff involved in Design Engineering
- Government Organizations and staff involved in Design Engineering
- Codes and standard organizations and staff dealing with Design Engineering Standards
- Engineers communicating technical issues to the public
- The general public utilizing engineered products and processes
- Historians and sociologists dealing with technology and the society

Metrics of Performance

- Are important technical work, enterprise work, and innovations coming out of our activities?
- Are we covering other relevant important areas?
- Are we properly serving our members: academics, students, government employees, and practicing engineering community?
- Do we reach to interdisciplinary areas by teaming within and outside engineering?
- Do we identify, recognize, and embrace new and evolving areas?
- Do the top people in the field remain involved with the activities of the division?
- Do our journals & conferences publish the most important developments in the field?
- Do our awards recognize the top developments and the leaders in the field?
- Are we developing the needed resources and the enterprise model to support and evolve our activities?

Products

Present Products:

- Technical Conferences Providing a Forum for the Exchange and/or documentation of Technical Information, enterprise issues, and practices of design engineering
- Technology Conferences, Exhibitions, and Shows aimed at the Practicing Engineers and Industrial Sector
- Workshops and tutorials for focused information and technology transfer
- Archival Journals for dissemination of long lasting knowledge
- Conference Proceeding Publications for rapid dissemination of knowledge
- Honors and Awards recognizing outstanding contributions
- Training of students and engineers

Additional Products Under Consideration for Development:

- Codes and standards for design engineering practices
- Recruitment & retraining tools and workshops for practicing design engineers
- Standards and requirements for design engineering education (Design Education Certification)
- Design Engineering Certification
- National Student Design Competition

Strength and Weaknesses

Strength:

- An enterprise model for a technical division with a well maintained revenue stream and a growth plan
- A division structure that attracts exceptionally capable volunteer group
- Well recognized publications with both short term and archival value
- A well established and managed technical conference
- Well established and recognized set of honors and awards

Weaknesses:

- Participation of industrial members in technical activities and conferences need improvements
- Graduate and undergraduate student participation need sustainable resources
- Better coordination is need with other ASME divisions and units
- Methods to ensure organizational agility are needed
- Coordination and networking is lacking with standards, accreditation and registration organizations

2005 ASME Design Engineering Technical & CIE Conferences

September 24-28, 2005, Long Beach, California
http://www.asmeconferences.org/idetc2005/

GENERAL CHAIRS MESSAGE

On behalf of the ASME Design Engineering Division and the ASME Computers and Information in Engineering Division, it is our great pleasure to invite you to attend and contribute to the 2005 ASME International Design Engineering Technical Conferences (IDETC) & the Computers and Information in Engineering Conference (CIE). This International Conference will take place on September 24-28, 2005, at the Hyatt Regency, Long Beach, California. Long Beach is easily accessible from anywhere in the world and combines the best of outdoor adventure and modern amenities.

This event is the premier international meeting in the fields of Design Engineering and Computers and Information in Engineering. It is designed to showcase cutting-edge research and accomplishments, and to enrich educational experiences in these fields. The purpose of this meeting is to advance the understanding of the knowledge base that we will collectively draw upon in the years ahead to meet the challenges and realize opportunities. Technical papers and presentations for the following conferences and their respective symposia are solicited.

- 20th Biennial Conference on Mechanical Vibration and Noise (VIB) Conference. Chair: Hamid R. Hamidzadeh, TSU; Program Chair: Albert C. J. Luo, SIUE.
- 31st Design Automation Conference (DAC). Chair: Wei Chen, Northwestern University.
- 17th International Conference on Design Theory and Methodology (DTM) Conference. Chair: Yan Jin, USC.
- 10th Design for Manufacturing (DFM) Conference. Chair: Jeffrey Herrmann, University of Maryland.
- 25th Computers and Information in Engineering (CIE) Conference. Chair: Simon Szykman, U.S. Department of Homeland Security; Program Chair: Imre Horvath, TUDelft.
- 18th Reliability, Stress Analysis & Failure Prevention (RSAFP) Conference. Chair: Erol Sancaktar, University of Akron.
- Power Transmission and Gearing (PTG) Conference Chair: David Lewicki, U.S. Army - NASA Glenn.
- 5th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC) Conference. Chair: Ahmed Shabana, UIC; Program Chair: Kurt Anderson, RPI.

A fundamental challenge for engineering design is to develop and apply better ways of understanding different methodologies, and raise yet other opportunities for informatics research and its broader societal impact. Participants will attend scientific presentations by engineers and scientists representing both industry and academia. The ever-growing demand and the need for rapidly changing technologies in engineering design will be viewed from several different perspectives including: vibrations, dynamics, noise, design automation, stress analysis, manufacturing, computational methods, gearing, power transmission, and computer information technology. These conferences represent a unique opportunity for meeting colleagues and friends, exchanging ideas, and learning about each other's research work.

The Computers and Information in Engineering Conference provides a forum for enhancing the practice of engineering by understanding the application of emerging technologies that impact critical engineering issues of representation, product design and product development, management, and integration of information throughout the entire engineering product and process life-cycle.

Additionally, the 25th CIE Conference will mark the 25th anniversary of the CIE Division. Unique perspectives on where the division has been and where it is headed will be a centerpiece of the Conference and accessible to all attendees at the 2005 IDETC/CIE. In addition, the year 2005 is the 125th anniversary of ASME and will be celebrated throughout the week.

The conferences will also include plenary sessions, keynote lectures, and several tutorials on different topics related to engineering design. Industry participation is very welcomed, and we hope that the conference will lead to effective and fruitful communication between the research and industrial communities.

Please come visit us at the ASME 2005 IDETC, and experience and exchange the advances in the field of design engineering. We look forward to having the opportunity to welcome you to Long Beach in September 2005.

Hamid R. Hamidzadeh
2005 ASME IDETC/CIE
General co-Chair

David E. Lee
2005 ASME IDETC/CIE
General co-Chair

Albert C. J. Luo
2005 ASME IDETC/CIE
Technical Program Chair

2004 ASME Design Engineering Technical & CIE Conferences

http://www.asmeconferences.org/DETC04

http://www.detc2004.me.byu.edu

The 2004 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference will be held in Salt Lake City, Utah at the Salt Lake City Center Hilton from September 28 to October 2, 2004. Brigham Young University is pleased to be the local host for the conference.

The IDETC is composed of the following conferences and symposia,

- 30th Design Automation Conference (DAC)
- 28th Biennial Mechanisms & Robotics Conference (MECH)
- 24th Computers and Information in Engineering Conference (CIE)
- 16th International Conference of Design Theory and Methodology (DTM)
- 9th Design for Manufacturing Conference (DFM)
- Symposium on Integration of Materials Microstructure in Design Optimization (IMDO)
- 2nd Symposium on International Issues in Engineering Design (IIED)

Conference Chairs:

Alan R. Parkinson
General Conference Chair

- Coordination of individual conferences

Tel: (801) 422-6316
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Associate Dean and Professor

Spencer P. Magleby
General Conference Co-Chair

- Local arrangements and cultural events
- Exhibitions
- Workshops and Tutorials

Tel: (801) 422-3151
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Professor, Mechanical Engineering

Larry L. Howell
General Conference Co-Chair

- Conference program technical chair
- Student design competitions

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Associate Prof. and Chair, Mechanical Engineering

Address for Conference Chairs: Brigham Young University, 435 CTB, Provo, UT 84602

For conference registration and hotel information, visit either of the web addresses given above.

www.asme.org/divisions/fpst

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