ASME
SETTING THE STANDARD
1880 2005

Design Engineering Division

DED NEWSLETTER 2005
Chin An Tan, Editor

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

DED Members Elected to Fellow Grade

At the time of this writing (January 20, 2005) nine members of our Division have been elected to the Fellow grade of membership since July 1, 2004. Congratulations to Shapour Azarm, Tom Chase, David Lewicki, Alan Parkinson, William Schmidt, Chin An Tan, Mohamed Trabia, Judy Vance, and Wan-Suk Yoo.

Last year in this column, I said each of our Technical Committees should set a goal of nominating at least one Fellow every year. 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.

At the Congress this past November, the first annual Fellows Recognition Reception was held. The 149 newly elected Fellows were all invited and 23 participated, as well as 15 Officers and other Fellows. Wine and Cheese were served and remarks were made by Dick Goldstein, Chair of the Fellows Review Committee, and Harry Armen, President of ASME.

Our Division still has the lowest percentage of its members elected to Fellows. Some of you may still think that, to qualify for this grade, one must be a researcher with many published papers. Check the website above to find that categories appropriate to industry are also available. Anyone who needs advice or help may contact me at hirschr@asme.org.

Richard A. Hirsch, PE

ASME Journal Alert

Great news! A free e-mail alerting service on ASME journals is available. By signing up for this alert service, current tables of content of ASME journals of your choice will be emailed to you in due time. To subscribe to this service, please visit the following web site: http://scitation.aip.org/asme/alert.jsp

Message from the Chair

Krishna C. Gupta

It is a great privilege and honor to serve as the Chairman of the Design Engineering Division (DED), one of the largest divisions of ASME. Thanks to my predecessors, the Division is in good shape. However, we face many new challenges and I would like to share my thoughts on few of these.

Cooperation and collaboration with other divisions and societies would become even more important in the future. For instance, in addition to developing its stable of sponsored journals (three now), the Division has successful partnerships with other divisions and societies for journals in emerging and interdisciplinary areas (two now). There is also a stronger need for collaboration with other divisions and societies in organizing conferences. One example is the ongoing partnership between the Design Engineering Division (DED) and the Computers and Information in Engineering Division (CIE) in organizing the Fall IDETC/CIE Conferences. Conference and convention business is also changing. In order to access interesting and exciting sites, and be breakeven financially, successful conferences should draw 750-1,000 paying attendees from government, industry and universities. Preliminary discussions are going on within the DED as well as with leaders of other divisions on complex issues of joint organization, planning and financial responsibility.

Short courses that can provide continuing education credits to practising engineers would add to the appeal of our conferences to engineers in the industry. Many states now require continuing education credits for the renewal of Professional Engineering Licenses. With a growing trend away from fee-only based licensing renewal, we have to respond to this challenge that also presents several interesting opportunities to broaden the appeal of our conferences.

Members of our community have also taken initiatives in response to new challenges. One indication of this is the formation of new technical committees. A new technical committee on Multibody Systems and Nonlinear Dynamics (MSND) was formed in 2003. A technical committee on micro- and nano-scale systems is currently in the incubation phase. Active discussions are going on right now to develop a technical committee on entertainment engineering as gigantic entertainment theme parks are springing up all over the globe. Our bylaws call for an active group of people with common technical interests to form a subcommittee within an existing technical committee for a period of one or more years, and then the Division Executive Committee can evaluate the proposal to form a new technical committee.

ASME reorganization ("Continuity and Change") that is scheduled to take effect this summer will impact every aspect of ASME. All technical divisions, local sections and student sections will come under Knowledge & Community ("K & C") Groups. We have heard a lot that this rapid and massive reorganization will bring new efficiencies through consolidation or centralization of services, reenergize ASME through recruitment and retention of younger members, and make ASME an agile organization to respond to global trends in education, manufacturing, services and trade. Let us hope so. Many volunteer leaders whom I have talked to have shared concerns with me that sweeping proposals for restructuring the ASME organization and finances have been prepared without vetting them out fully within the broader ASME community.

While the reorganization planning documents make repeated references to volunteer-staff partnerships, we have to be ever watchful that the balance does not tilt over to ASME staff on matters of technical and professional decision making. Volunteers who generously contribute their time, energy and technical expertise at no cost to ASME define what ASME is today. Hidden costs associated with volunteer efforts that are "picked up" either by volunteers themselves, or their employers, represent a substantial resource that is often not recognized well enough within ASME. Volunteers do need the help of the staff on ASME payroll to help in many operational matters. I hope that the long established tradition of volunteer-staff partnership would be stronger than ever after the reorganization.

Finally, let me go over a little bit of housekeeping. The DED finances are in good shape now, primarily due to strong recovery in the markets, and consistent positive contributions from our conferences. The Division has several prestigious division level and division-committee level awards that had been on shaky financial ground for quite some time and their long-term sustainability was becoming doubtful. The Division Executive Committee recently implemented a plan to match funds on a one-time basis to raise endowments for these awards to a level that will ensure that the associated honoraria and costs of certificates or plaques can be covered for many years to come. I look forward to receiving your comments and suggestions at kcgupta@uic.edu.

Krishna C. Gupta

Greetings from the Past Chair

It has been a great pleasure to be a part of the DED Executive Committee for the past five years and complete my term by serving as the Chair of the Division. I have benefited more from the Design Engineering Division than I could ever give in return. And this is due to the fact that there are many top notch professional people involved in a wide range of division activities from local to national levels. I do believe that the Design Engineering Division will continue to grow and attract the best people in the business, who will be able to meet the challenges of the future and provide directions. While my immediate predecessor, Bahram Ravani, focused on developing a strategic plan for the Division, I tried to shape some of the ideas put forward by the technical committees into reality. A new technical committee on Multibody Systems and Nonlinear Dynamics has been established to provide a home for various activities that have been going on within the Division for years. With the support of this committee, the DED was able to convince the ASME Publication Directorate to start a new ASME Transaction *Journal of Computational and Nonlinear Dynamics*. Two subcommittees on Micro and Nano Systems that operated within TCVS and Mechanism and Robotics Committees are ready to make a proposal for formation of a new technical committee. By the time this newsletter is published, we would have established a new technical committee on Micro and Nano Systems. Our conferences are well attended and all committees are running smoothly. We have notable presence at the IMECE and NMW. Fiscally, the DED is in the best shape that it ever has been.

Although the Division is doing quite well, we must continue to ask ourselves if we are taking the right steps now that will guarantee the success of the Division in the future. We must be quick in identifying new scientific and technological advancements and provide room for development in our technical committees. Our conferences and journals must encourage rapid publication of research articles in emerging and evolving areas. Our Editors must try to improve the citation index ratings of their journals on a continuing basis. I also appeal to the Associate Editors and reviewers to make every effort to expedite the reviewing process.

The DED has developed a strategic plan which is posted on its web site. You will notice that there are several items that are vital to the prosperity of our division. If in the future we would like to remain as the thriving model division within ASME, then each of us has to do our part. I invite you to take a look at this strategic plan and contact the members of the Executive Committee with your suggestions.

I would like to take this opportunity to thank the current members of the DED Executive Committee who were the most ideal bunch to work with. Krish Gupta is the incoming Chair of the DED starting this July. Congratulations to Krish; the DED is in good hands!

Subhash C. Sinha

The Journal of Vibration & Acoustics

This will be my final report to the membership of DED as editor of JVA. On January 1, 2005, Kon-Well Wang at Penn State assumed the responsibilities of the editorship. Kon-Well has served ASME well over the years, as an associate editor of JVA, and as a member and chair of the TCVS. I am certain that he will do an outstanding job as editor, and I wish him all the best.

The past five years have gone quickly and fairly smoothly, thanks to the help of many. First, I would like to express my gratitude to my journal assistant, Linda Conway, for her tireless efforts. Our smooth transition to JournalTool, the ASME web-based system for manuscript submission and review, was due to her efforts.

I was fortunate to have a great bunch of associate editors to work with along the way, who made my job fairly straightforward. My thanks go to all of them for their dedication. I would like to especially thank Mike Friswell and Jerry Ginsberg who completed their second terms and retired from the editorial board at the end of 2004.

Finally, I want to express my appreciation to all of the ASME staff involved in the operation of the Journal, as well as to those who submitted manuscripts to JVA during the past five years. It's been my privilege to work with you all.

Lawrence A. Bergman

I am very pleased to have this opportunity to serve the flagship journal of the technical community that I have been involved with throughout my career. It is also a privilege for me to have the chance to work with an elite group of associate editors, reviewers, and authors, many of whom I know professionally and personally.

I want to express my sincere appreciation to Larry Bergman and his assistant, Linda Conway, for their wonderful leadership and service during the past five years, and their kind effort in helping my assistant, Karen Thal, and me through this transition period.

Thanks to the good work of many great contributors in the past, JVA has been a highly reputable journal in the field of vibration and acoustics. I look forward to working with all of you in the years to come. Please feel free to contact me regarding any issues related to the journal. I always welcome ideas to make life better.

Kon-Well Wang

The Journal of Computational and Nonlinear Dynamics

In January 2005, the ASME approved the establishment of the *Journal of Computational and Nonlinear Dynamics* (JCND) sponsored by the Design Engineering Division. I would like to thank Ahmed Shabana, Kurt Anderson, Harry Dankowicz and Tamas Kálmár Nágy of the Technical Committee on Multibody Systems and Nonlinear Dynamics (MSND) for their effort in making this journal a reality. The journal serves as a forum for the exchange of new ideas and applications in computational rigid and flexible multi-body system dynamics, and all aspects (analytical, numerical and experimental) of dynamics associated with nonlinear systems. The Journal is operational and open for submission. Currently 16 Associate Editors from around the world serve the journal. It is a quarterly journal with the first issue starting in January 2006. However, the first issue will be ready for distribution in September 2005, just in time for display at the IDETC 2005 in Long Beach, California.

I encourage you to choose JCND as the medium of dissemination of your research if it falls within the scope of the Journal. All of us associated with JCND are committed to a rapid review process. Please contact me directly if you have any comments or suggestions.

Subhash C. Sinha

The 2004 IDETC & CIE Conference

The 2004 ASME International Design Engineering Technical Conferences and the Computer and Information in Engineering Conference were held during Sept. 28-Oct. 2, 2004 at the Hilton Hotel in Salt Lake City, Utah. The Conference featured the 30th Design Automation Conference, the 28th Biennial Mechanisms and Robotics Confer-ence, the 24th Computers in Engineering Conference, the 16th Design Theory and Methodology Conference, and the 9th Design for Manufacturing Conference. In addition, two symposia, Integration of Materials Microstructure in Design Optimization and International Issues in Engineering Design, were organized. About 570 attendees presented 505 papers.

Special events for the Conference included a tour of Brigham Young University, a student picnic, a Mormon Tabernacle Choir rehearsal, and a tour of the Olympic facilities. We wish to thank the staff at ASME, especially Kim Punter and Noha El-Ghobashy, for helping to make the Conference a success.

Alan Parkinson

The 2005 National Manufacturing Week

ASME submitted a total of 41 technical session proposals to the 2005 National Manufacturing Week (NMW). The Design Engineering Division sponsored 7 of these sessions. Each session involved a fifty minute presentation relevant to industrial participants. The DED would like to encourage members to develop sessions for the 2006 NMW. The chance to make a fifty minute presentation to a large industrial audience on a topic relevant to the products and services of your company is a great opportunity. All speakers will receive 10 free attendance passes to their respective sessions only. High quality presentations will be posted on Lexus Nexus.

The primary motivation in organizing this conference is to attract potential buyers to the show floor. To that goal, we are looking for presentations (preferably case studies) that address real, practical solutions to everyday design, manufacturing and management problems, and ways to reduce cost, increase productivity and improve quality and reliability. We are not looking for academic and R&D types of presentations.

John E. Renaud

Committee Reports

International Activities—A Call for Papers

Previous symposiums on International Issues in Engineering Design were held during the IDETC in 2001 in Pittsburgh and 2004 in Utah with great success. The International Activities Committee of the Design Engineering Division will hold a third symposium as part of the 2006 IDETC in Philadelphia. The committee invites abstracts on issues associated with international collaboration and issues in engineering design. Topics of special interest include: Pan-World Collaborative Design Teams—experiences from academia and industry; Communication techniques used to facilitate international team participation; Approaches to design engineering and product development—the cultural similarities and mismatches; Design projects through industry and academic collaboration.

Abstracts are due December 2005 and should be submitted to Professor Philip Doepker, Department of Mechanical and Aerospace Engineering, University of Dayton, 300 College Park Drive, Dayton, Ohio 45469-0210; phone (937) 229-2971; e-mail: Doepker@udayton.edu.

Philip E. Doepker

Design Automation Committee

The Design Automation Committee promotes research and education of design automation. These areas include, but are not limited to: (1) Design representation—CAD, virtual and physical prototyping, knowledge based systems, and product data management; (2) Design optimization—structural, topological, multi-disciplinary, heuristic and deterministic, and under-uncertainty optimization; (3) Design evaluation—modeling, simulation, and approximation; and (4) Design integration—integration, decomposition, and collaboration.

Every year the committee sponsors the Design Automation Conference (DAC) as one of the International Design Engineering Technical Conferences. In the last conference in 2004, we celebrated the 30th anniversary of DAC. This conference was another success with 115 paper presentations, selected from 158 submissions. At the special anniversary event, old and new members of the design automation community gathered to celebrate the three decades of the community. We shared interesting stories about early days of the design automation research and then we discussed the future directions.

Design Automation research and education have been a major focus of interest in ASME, and DAC has played an important role by offering an opportunity for researchers, educators, and practitioners to join together every year for the exchange of information and ideas. In addition to the enthusiasm of the members of the design automation community, the long-lasting success of DAC has been driven by the evolution of the practice of design and the pressing demand for automation in new design practice. This general trend does not seem likely to change in the near future, and DAC will continue to be a central forum for researchers, educators, and practitioners to share their real-world problems and innovative solutions.

The Design Automation Committee is open to anyone interested in its activities. For more information, please visit the web site of the committee at: http://www.me.washington.edu/~asmeda, or contact Professor Kenji Shimada, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA 15213-3890; e-mail: shimada@cmu.edu; phone:(412) 268-3614; fax: (412) 268-3348.

Kenji Shimada

Design Education Committee

The Design Education Committee (DEC) has enjoyed a vigorous and active year in 2004. In particular, after a period during which both membership and activities declined, the DEC has taken the following actions.

- Wrote a new manual of operating procedures that includes new vision and mission statements and a very-much revised set of activities, officers, and operating processes.
- Posted this new manual and its newly elected slate of officers on its new web site, which is currently (and temporarily) housed at http://www2.hmc.edu/~miles/index.html.
- Initiated the planning for a set of sessions for IDETC 2005 in Long Beach, jointly sponsored by the CIE Division, the DAC, the DFM Committee, and the DTM Committee. These joint sessions are intended to be scheduled on the same day, thus enabling the DEC to host a one-day symposium on design education that will hopefully bring some new registrants to the IDETC.

Other new features and activities of the DEC include:

- Incorporating the International Activities Committee of DED as a formal subcommittee of the DEC, with its chair being the Associate Vice Chair of the DEC.
- Initiating the process of renaming the Triodyne Safety Award to the Ralph Barnett—Carl Uzgiris Product Design Safety Award, and raising its status from a DED award that had been the "sole" responsibility of the DEC to a Society Award.
- Reviving the Young Design Engineer's Paper Competition using electronic submissions and considering implementing the entire Competition electronically.
- Including a BLOG on the DEC web page that is designed to provide a marketplace for the development and exchange of industry-sponsored university design projects.
- Holding at least one annual meeting at the IDETC, with the hope of drawing a larger number of engineering design faculty members to the DEC.

The new officers of DEC are encouraged by the number of new members and participants in the various DEC activities, and we look forward to the DEC being a vital, visible part of the future of the DED. For information, please contact Professor Clive Dym, Center for Design Education, Harvey Mudd College, Claremont, CA 91711-5990; phone (909) 621-8853; fax (909) 621-8967; e-mail: clive_dym@hmc.edu.

Clive L. Dym

Technical Committee on Fastening & Joining

The Fastening and Joining Technical Committee of Design Engineering Division serves ASME membership and others who are interested in novel developments related to fastening, welding and adhesive joining of polymeric, metallic, ceramic and other advanced materials and structures. Particular areas of interest include design and manufacturing, cost-effective and rapid joining methods, innovations in adhesives technology such as tapes and pressure sensitive adhesives, dynamic behavior and long term durability of joined structures, nondestructive evaluation and characterization. The committee sponsors symposiums with a specific theme at the annual International Mechanical Engineering Congress and Exposition. The theme for the 2005 IMECE in Orlando, Florida is "Joining Technologies for Advanced Materials and Structures" with three sessions planned. The organizers for this symposium are Dr. Joe Kuczynski from IBM; Professor Ahmed Al-Ostaz from the University of Mississippi; and Dr. Endel Iarve from the University of Dayton Research Institute.

The committee currently has about 15 active members and welcomes experts and distinguished researchers from industrial and academic fields to participate in the activities of the committee. If you are interested in joining the committee or need further information, please contact the Committee Chair: Professor P. Raju Mantena, Department of Mechanical Engineering, Composite Structures and Nano Engineering Research, The University of Mississippi, Carrier Hall 201-D, University, MS 38677; phone (662) 915-5990; fax (662) 915-7219; e-mail: meprm@olemiss.edu.

P. Raju Mantena

Mechanisms and Robotics Committee

The purpose of the Mechanisms and Robotics Committee is to promote advances in research and education in the theory, design and application of mechanisms and

continued on page 4

machine systems. Current active areas of interest include, but are not limited to, the following topics: Mechanism Synthesis, Components and Applications; Robotics: Theory; Robotics: Applications; Theoretical and Computational Kinematics; Dynamics of Machines; Compliant Mechanisms; Micro- and Nano-Scale Electromechanical Systems (MEMS and NEMS); Medical Devices and their Applications; and Education in Mechanisms and Robotics.

The 2004 Mechanisms and Robotics Conference was held in Salt Lake City, Utah, and included the presentation of over 170 technical papers, plus several keynote speakers and other presentations. Other key events included the ASME Schlumberger/L-3 Communications/MSC.Software Student Mechanism Design Competition and a presentation on the Digital Library of Historical Mechanisms.

This year the ASME Mechanisms and Robotics Committee will break with several decades of tradition by moving from a biennial conference format to the Annual Mechanisms and Robotics Conference. This year the Conference will be held as part of the ASME International Design Engineering Technical Conferences (IDETC) in Long Beach, California. The change to an annual format has necessitated a change in the committee structure, which will also allow the involvement of more people in the mechanisms community to participate in conference organization. For more information about the committee and its activities, please visit: http://www.asme.org/divisions/ded/mechcomm/index.html or contact Professor Larry Howell, Department of Mechanical Engineering, Brigham Young University, 435 CTB, Provo, Utah 84602; phone (801) 422-8037; fax (801) 422-0516; e-mail: lhowell@byu.edu.

Larry L. Howell

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, nonlinear dynamics and control, and other related areas. The committee consists of members from academia and industry. One of our main activities is to organize the Biennial *International Conference on Multibody Systems, Nonlinear Dynamics and Control* as one of the Design Engineering Technical Conferences.

The Technical Committee on Multibody Systems and Nonlinear Dynamics had its last meeting in Blacksburg, Virginia on Sunday, July 25, 2004, 8:00–9:30 pm. During this meeting, members of the committee discussed the preparation for and the proposed symposia of the 2005 Fifth International Conference on Multibody Systems, Nonlinear Dynamics and Control which will be part of the 2005 ASME Design Engineering Technical Conferences to be held in Long Beach, California. Seven new members were elected. These new members are Alain Berlioz, Jin-Hwan Choi, Harry Dankowicz, Peter Eberhard, Tamas Kálmár Nágy, John McPhee, and Christophe Pierre. The members of MSND approved the formation of a Journal Subcommittee to prepare a pro*posal to establish the new ASME Journal of Computational and Nonlinear Dynamics*. The proposal for the new journal was approved in November 2004 by the ASME Publication Committee. Professor Subhash Sinha will serve as the first editor of the journal.

MSND introduced two new awards, the D'Alembert and Lyapunov Awards for significant contributions to the fields of multibody systems and nonlinear dynamics, respectively. The nominations for these two awards were discussed. The first recipient of the D'Alembert Award is Professor Thomas Kane, while the first recipient of the Lyapunov Award is Professor Ali Nayfeh. These two awards will be presented to Professors Kane and Nayfeh at the Fifth International Conference on Multibody Systems, Nonlinear Dynamics and Control.

The next meeting of the committee is scheduled to be in Long Beach, California during the period of September 24-28, 2005. For further information, please contact Professor Ahmed Shabana, Department of Mechanical Engineering, MC 251, University of Illinois at Chicago, 842 W. Taylor Street, Chicago, Illinois 60607-7022; phone (312) 996-3600; fax (312) 413-0447; e-mail: shabana@uic.edu.

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 is participating in the 2005 IDETC in Long Beach, California. It is anticipated that approximately 50 papers in the areas of gear dynamics and noise, gear design and analysis, transmissions, gear lubrication and efficiency, engineered surfaces and tribology, gear strength and durability, gear diagnostics, gear manufacturing, and chains, belts, and traction drives will be presented.

Please visit our committee website at http://asmegear.eng.ohio-state.edu/ for more information. If you are interested in the PTG Committee activities, please contact Dr. David Lewicki, U.S. Army Research Laboratory, NASA Glenn Research Center, 21000 Brookpark Road, M.S. 23-3, Cleveland, Ohio 44135; phone (216) 433-3970; fax (216) 433-3954; e-mail: 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 the 2004 International Mechanical Engineering Congress and Exposition (IMECE) with a focus on "Failure Analysis/Prevention, Reliability Issues." Five sessions were organized with 20 papers and participants from overseas countries including Japan, Korea, China, Taiwan and Belgium. A good mix of papers from industry, academia, and government (NASA) was present.

The RSAFP Committee will participate in the IMECE 2005, as well as the International Design Engineering Technical Conference to be held in Long Beach, California, September 24-28, 2005. For more information about the committee and its activities, please contact Professor Erol Sancaktar, 323 Polymer Engineering Academic Center, 250 S. Forge Street, The University of Akron, Akron, Ohio 44325-0301; phone (330) 972-5508; e-mail: erol@uakron.edu.

Erol Sancaktar

Student Affairs Committee

This year the committee continues its focus on promoting and expanding student focused activities at the IDETC & CIE Conferences. At the 2004 Conference, the committee organized a *Student Picnic* (funded by a generous donation from Mr. Dick Hirsch and conducted by Jim Schmiedeler and Drew Murray). Moreover, we created a *Welcome Message* for the Conference Program specifically addressed to students. In addition to appearing in the Conference Program, this message was also prominently displayed on the BYU Conference website at: http://www.detc2004.me.byu.edu/conf/index.htm. The purpose of this welcome message was to make students aware of all of the activities available to them at the Conference. Furthermore, we have worked closely with the Conference leadership this past year in establishing new student registration options for the Conference. For the first time we had a student registration option that provides students with a copy of the Conference Proceedings CD-ROM! We welcome your feedback on these efforts as well as your suggestions for future student focused activities. For the latest information regarding our committee, please visit our website at: http://www.engr.udayton.edu/faculty/amurray/graduate/.

The 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, and 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 projects such as

these appeal to you or your colleagues, we encourage you to join us by contacting the Chair: Professor Pierre Larochelle, Department of Mechanical and Aerospace Engineering, Florida Institute of Technology, 150 West University Blvd., Melbourne, Florida 32901-6975; phone (321) 674-7274; fax (321) 674-8813; e-mail: pierrel@fit.edu.

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 the members of the mechanical engineering community through organizations of ASME symposiums and other information exchange mechanisms. Advances in the areas of Vehicle Dynamics, Stability and Control of light and heavy vehicles, Advances in 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 Transportation Systems are specifically emphasized.

The committee congratulates the winner of the 2004 Vehicle Design Committee Best Paper Award: Paper number IMECE2004-60902, "Multi-Objective Design and Selection of One Optimal Solution" by Francesco Levi, Massimiliano Gobbi , Giampiero Mastinu (all from Politecnico di Milano), and Marco Farina (ST Microelectronics).

Committee members from the industry were asked to explore the possibility of participating in the Best Paper Award. Our committee has active participation from the US Army, US Navy, Titan Systems, Eaton, General Motors, John Deere, Volvo 3P, BMW, Hyundai and DaimlerChrysler corporations. We have asked these companies to offer $500 cash award to go along with the Design Engineering Division Vehicle Design Committee Best Paper Certificate Award. Each year one company sponsors this cash award in form of a check payable to the Design Engineering Division to be issued by ASME to the first author of the winning paper. The company logo is also included on the ASME Best Paper Award Certificate. Eaton Corporation has agreed to sponsor the Vehicle Design Committee Best Paper Award for 2005.

The committee organized a very successful symposium on "Advanced Vehicle Technologies" at the 2004 IMECE in Anaheim, California. Six successful sessions, including 32 papers from academic, government, and industrial organizations from the USA, Italy, South Korea, Sweden and Japan, were included in this symposium. The attendance was above our expectation and 100% of the papers were presented. The committee is very thankful for all efforts and assistance provided by its members.

The committee is organizing a symposium entitled "Advanced Vehicle Technologies" to be held during the International Mechanical Engineering Congress and Exposition, November 5-11, 2005, in Orlando, Florida. Papers are invited on innovative analytical, computational, and experimental investigations in control, dynamics, and design of full vehicle systems and their sub-assemblies. Papers may address fundamental research, applied research, or successful implementations relating to light or heavy vehicle design and development. The topical organizer of this symposium is Dr. Moustafa El-Gindy, Applied Research Laboratory at Pennsylvania State University. Six sessions will be organized as follows. 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 Experimental Evaluation. All papers will be subjected to extensive review and the best paper will be selected; the author(s) of the best paper will receive the Best Paper Award at the opening of the 7th Advanced Vehicle Technologies Symposium during the 2005 ASME IMECE.

The next meeting of the committee will be held during the 2005 ASME IMECE on November 7, 2005 at 8:00pm. For further on the activities of the committee, please contact Dr. Moustafa El-Gindy, Applied Research Laboratory, The Pennsylvania State University, 201 Research office Building, University park, PA 16802; phone (814) 863-7930; fax (814) 863-3034; e-mail: mxe15@psu.edu.

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 related 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 National Manufacturing Week in Chicago and the annual IMECE. 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 sponsored three symposia at the 2004 IMECE: *Dynamics, Acoustics and Simulations* (6 sessions) organized by Hamid Hamidzadeh, Homer Rahnejat, and Albert Luo; *Advances in System Identification Techniques* (3 sessions) organized by Chin An Tan, Carole Mei, and Bongsu Kang; and *Nonlinear Dynamics, Experiments, and Signal Analysis* (3 sessions) organized by Brian Feeny and Alan Haddow. Preparation for the 2005 IDECT is underway, with Hamid Hamidzadeh as the Conference Co-Chair and Albert Luo as the Program Chair. Planning for the 2007 IDETC has been undertaken by H.S. Tzou who has submitted a proposal to the Executive Committee. TCVS sponsored one session at the 2005 National Manufacturing Week, entitled "Mesh Generation, theory and Application for the Practising Engineer," by John Chawer of Pointwise, Inc. and Steve Owens of Sandia National Lab.

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 2005 Den Hartog and Myklestad recipients are Dan Mote and Christophe Pierre, respectively. The awards will be presented during the 2005 IDETC in Long Beach, California.

The TCVS interacts with a number of other committees and divisions, with liaisons to the Noise Control and Acoustics Division (Grosh), Applied Mechanics Division – Dynamic Systems and Structures Committee (Luo), Applied Mechanics Review (Pierre), Aerospace Division – Adaptive Structures Committee (Wang), Design Engineering Division – Power Transmission and Gearing Committee (Parker), and International Activities Committee (Dyke). Members and friends interested in getting more information or participating in the activities of TCVS are invited to visit our web page at: http://www.me.psu.edu/tcvs/ or contact Professor William Clark, Department of Mechanical Engineering, 538 Benedum Hall, University of Pittsburgh, 3700 O'Hara Street, Pittsburgh, PA 15261; phone (412) 624-9794; fax (412) 624-4846; e-mail: wclark@engr.pitt.edu.

William W. Clark

Committee on K-12 Awareness of Design Engineering

ASME Pre-College education services include teaching materials and partnership opportunities to help teachers and engineers to strengthen the science, technology, engineering, and mathematics skills of young people and to assist them in becoming more aware of the role of engineering in their lives. Various programs and summer camps have been organized to achieve these objectives.

Recently, several programs that promote an understanding of engineering among pre-college students were recognized during the EWeek by ASME Board on Pre-College Education. For more information about these exciting programs, please visit the ASME web site at: www.asme.org/education/precollege/.

Kathy Jacobson

continued on page 6

Government Relations Committee

Energy: The Comprehensive Energy Bill remains stalled due to disputes over the ultimate cost and how to handle the cleanup and liability of the gasoline additive, MTBE. American Electric Power announced plans to build at least one ultra-low emission power plant using the IGCC (Integrated Gasification Combined Cycle). The Wind Energy Production Tax Credit was extended through December, 2005, keeping an estimated $3B in wind energy investments forecast for the next several years on track. Congress approved incentives for construction of a natural gas pipeline from Alaska to the lower 48 states. Tax credits were also extended for ethanol through 2010 and for bio-diesel starting in 2006.

Nuclear: The House Energy and Commerce Committee approved legislation to prevent further diversion of funds collected for the nuclear waste fund to other energy projects. Congress is working to help the nuclear power industry with production tax credits estimated at $19B to cover the cost of building new reactors. No new nuclear power plants have been built in the last 25 years.

Environment: California's Air Resources Board (CARB) has set requirements for automakers on carbon dioxide gas emissions. The automotive industry strongly opposes to these state level restrictions, stating that these levels would be impossible to meet and that vehicle costs would increase by $3,000 per car. The EPA estimates that it will take $250B over the next 30 years to clean up contaminated sites such as underground storage tanks, hazardous waste properties managed by the Energy and Defense Departments and Superfund sites. There are an estimated 235,000 to 335,000 sites to be dealt with.

Aviation: A 1992 U.S.-EU (European Union) agreement limits subsidies to aircraft companies to 33% of the development cost of a new aircraft. This is becoming an issue as Airbus' share of the market increases at Boeing's expense. DOT, NASA, FAA, DoD, Commerce and Homeland Security Departments are teaming up to create "a long term strategic business plan" to integrate airport security, air traffic control, environmental stewardship, weather forecasting, global standards development, IT, airport infrastructure and safety.

Space: The House has passed legislation to promote the growth of human space flight, making it easier to obtain experimental permits for projects such as launching sub-orbital rockets.

Highway Bill: Congress passed an 8-month extension of the Highway Law while work on a comprehensive, 6-year highway bill continues.

Budget: President Bush signed into law a $146B tax cut package that extends the R&D tax credit through 2005. Congress approved $32B for Homeland Security in 2005, $2.8B more than approved in 2004; NIST received a 10% funding increase; Congress approved $142M for ATP; NSF budget was cut for the first time in 13 years (1.9%); NASA received a budget increase to $16.2B for FY 2005; DHS gave out $2.5B in grants to state and local governments with the greatest risks.

Education: The House voted to provide $269M for the Math and Science Partnership (MSP) program, an 80% increase over 2004. NSF announced two programs aimed at MSP: $31M for seven new teacher institutes for the 21st Century and $60M for five large targeted partnerships bringing the total to 48 projects across the country. The AIP Bulletin of Science Policy News reports a decline in foreign graduate science and engineering students attending U.S. universities while the number of foreign undergraduate students is increasing.

Jobs/R&D/Competitiveness: U.S. job losses, primarily to China, Mexico and India, have doubled since 2001 (from 204,000 to 406,000). Congress has increased the number of H-1B visas allowed by 20,000 over the 65,000 limit in high-tech industries.

Homeland Security: The DHS began testing the *Transportation Worker Identity Credential* (TWIC) technology. The prototype will expand to 34 sites in six states. This is a tamper-proof credential that contains biometric information useable only by the assigned worker.

For further information, please contact Neil Anderson at neil.e.anderson@gm.com.

Neil Anderson

ASME Design Engineering Division Executive Committee Roster, July 1, 2005–June 30, 2006

Chair
Krishna C. Gupta, Ph.D.
Dept of Mechanical & Industrial Engr.
842 W. Taylor St. (M/C 251)
University of Illinois at Chicago
Chicago, IL 60607-7022
P: (312) 996-3427 F: (312) 413-0447
Email: kcgupta@uic.edu

Vice Chair / Treasurer
Shapour Azarm, Ph.D., P.E.
Depart. of Mechanical Engineering
University of Maryland
College Park, MD 20742-3035
P: (301) 405-5250 F: (301) 314-9477
Email: azarm@umd.edu

Technical Committee and IMECE Executive
Judy M. Vance, Ph.D.
Dept. of Mechanical Engineering
Iowa State University
2025 Black Engineering Building
Ames, Iowa 50011
P: (515) 294-9474 F: (515) 294-3261
Email: jmvance@iastate.edu

IDETC Executive
Kazem Kazeronian, Ph.D.
Dept. of Mechanical Engineering
191 Auditorium Road, Unit-3139
The University of Connecticut
Storrs, CT 06269-3139
P: (860) 486-2251 F: (860) 486-5088
Email: kazem@engr.uconn.edu

Secretary
Ahmed A. Shabana, Ph.D.
Dept of Mechanical & Industrial Engr.
842 W. Taylor St. (M/C 251)
University of Illinois at Chicago
Chicago, IL 60607-7022
P: (312) 996-3600 F: (312) 413-0447
Email: shabana@uic.edu

NDEC Chair
John E. Renaud, Ph.D.
Department of Aerospace and Mechanical Engineering
University of Notre Dame
Notre Dame, IN 46556
P: (574) 631-8616 F: (574) 631-8341
Email: Renaud.2@nd.edu

Past Chair
Subhash C. Sinha, Ph.D.
Dept. of Mechanical Engineering
Auburn University
201 Ross Hall
Auburn, AL 36849-5341
P: (334) 844-3325 F: (334) 844-3307
Email: ssinha@eng.auburn.edu

ASME
Noha El-Gobashy
Senior Manager, K&C
ASME
P: (212) 591-7787 F: (212) 591-7671
Email: ElGobashyN@asme.org

Jacinta McComie-Cates
Administrator, Unit Support
ASME
P: (212) 591-7052 F: (212) 591-7671
Email: mccomiej@asme.org

LaShion Pettiford
ASME
P: (212) 591-7387 F: (212) 591-7671

2005 ASME International 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 Horváth, TUDelft.
- 18th Reliability, Stress Analysis & Failure Prevention (RSAFP) Conference. Chair: Erol Sancaktar, University of Akron.
- 10th Power Transmission and Gearing (PTG) Conference Chair: David Lewicki, NASA Ames.
- 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

2006 ASME International Design Engineering Technical & CIE Conferences

http://detc2006.seas.upenn.edu/

The 2006 ASME IDETC/CIE Conference will be held in Philadelphia at the Wyndham Philadelphia in Franklin Plaza from September 10–13, 2006. The University of Pennsylvania is the local host for the conference. The Conference will feature plenary sessions, keynote lectures, paper presentations, workshops and tutorials on topics related to engineering designs. Industry participation is particularly welcome; indeed, we hope the conference will provide opportunities for fruitful communication between the research and industrial communities.

General Conference Chair:	Prof. Vijay Kumar University of Pennsylvania 3330 Walnut Street, Levine 470 Philadelphia, PA 19104 kumar@grasp.upenn.edu http://www.grasp.upenn.edu/~kumar
Conference Dates:	September 10-13, 2006
Deadline for Paper Submissions:	February 6, 2006

The 2006 ASME International DETC/CIE consists of the following conferences and special symposia:

- 30th Mechanisms and Robotics Conference (MR)
  Conference Chair, Prof. Gordon Pennock, Purdue University, pennock@ecn.purdue.edu
- 32th Design Automation Conference (DAC)
  Conference Chair: Prof. Hae Chang Gea, Rutgers University, gea@rci.rutgers.edu
- 18th International Conference on Design Theory and Methodology (DTM)
  Conference Chair, Prof. John K. Gershenson, Michigan Technological University, jkgershe@mtu.edu
- 11th Design for Manufacturing Conference (DFM)
  Conference Chair, Prof. Bill Wood, University of Maryland, Baltimore County, bwood@umbc.edu
- 26th Computers and Information in Engineering Conference (CIE)
  Conference Chair, Prof. Imre Horváth, Delft University of Technology, i.horvath@io.tudelft.nl