Message from the Chair • Vijay Kumar, Design Engineering Division Chair

It is my privilege and honor to serve as the Chair of the Design Engineering Division (DED) for 2012-13. DED is the largest division in the Systems and Design Group with a membership of over 11,500 members, nearly 70% of the group. It also represents one of the most relevant divisions in ASME with an impressive array of activities addressing the art, theory and science of design, the development of sophisticated analysis and synthesis techniques for design engineering, and the application to manufacturing, robotics and automation.

The vision for DED is to be the leader, as a division of the ASME, covering the art, science, and application of design engineering and to facilitate transfer of design engineering technology between industry, academia and government through programs and publications. Central to DED's vision and mission are the thirteen technical committees that are responsible for all the technical activities. The technical committees are responsible for organizing successful conferences, supporting our journals, attracting new members and recognizing and rewarding our most productive members. Indeed the best results are obtained by empowering the volunteer leadership at this level at which interaction with the membership is most direct. Each committee has its own fund and its own governance system, and the success of the division is a direct result of the hard work and inspiration of the many leaders of our technical committees.

The DED is the sponsor, with the Computers and Information in Engineering (CIE) Division, of the annual International Design Engineering Technical Conferences, which is one of the Society's largest, and most consistently successful regular meetings, and is the flagship conference for our division. This year's IDETC was held in Chicago and the numbers of papers and presentations were more than double the corresponding numbers of the 2006 conference in Philadelphia which I organized only 6 years ago. This growth in the conference is a testimony to the energy level and excitement in our community and the relevance of our activities to society. Next year's conference will be held from August 4-7, 2013 in Portland, Oregon.

Additionally, we are active in the International Mechanical Engineering Congress and Exposition (IMECE) in which our technical committees organize a number of sessions. We sponsor six prestigious journals in a variety of fields that touch on different aspects of design engineering, many of which have updates in this newsletter.

The DED has also established new programs to better serve our members. The Broadening Participation Committee's goal is to develop, implement and oversee new and existing activities aimed at broadening the participation of women and underrepresented minorities in DED activities. This year, the committee will organize a workshop on communicating technical ideas. DED's Committee for Student Affairs and Early Career Professionals has three objectives: (a) strengthen the relationship within the student community; (b) build ties between the students and more established ASME members; and (c) help the students get involved in DED activities. Every year, the committee has, in conjunction with the Conference Student Activities Chair, held a reception at the IDETC.

Through my 25 years as an ASME member I had the opportunity to work with some wonderfully dedicated, creative and inspirational people. I am particularly grateful to the members of the DED Executive Committee who all play major roles in the division. They are Vice Chair and Treasurer, Wei Chen; IDETC Executive, Sunil Agrawal; Technical Committee/IMECE Executive, Chris Rahn; Publications Executive, Kurt Anderson; Honors and Awards Committee Chair, Yan Jin; and Secretary, Tim Simpson who is starting his first year in this committee. We all owe a great deal to William Clark, the past Chair, for his leadership and hard work over the past year. There are two ASME staff who have been behind the scenes for all successful DED activities and who are leaving us this year. They are Program Manager Erin Dolan and administrator LaShion Pettiford. I want to thank them for their dedication to the division and the help they have given us over the years. I also want to take this opportunity to welcome Mary Jakubowski (program manager) and Jovita Frederick (administrator) to our team. They both have significant roles in DED and they will be working closely with all of us in the coming years.

If you haven't participated in the division's activities, I encourage you to take a look at our web site (divisions.asme.org/DED) and come to our conferences, and above all, get involved in one or more activities. As we go forward, I would welcome your suggestions on how we can improve our division and the society, how to recruit members with the best ideas to leadership positions within the division and how we can help you implement your ideas.

I wish you all a productive year, and hope to see you next year at the IDETC in Portland, Oregon.

EXECUTIVE COMMITTEE REPORTS

Greetings from the Past Chair • William Clark, Immediate Past Design Engineering Division Chair

We often hear “the year went by quickly.” That has certainly been the case for my term as DED Chair – a fast but no less fulfilling year. It has been an honor to serve as the chair of the largest and one of the most active divisions in the American Society of Mechanical Engineers during the past year. The enthusiasm and efforts of the many groups within the division, including technical and standing committees, journal editors, conference organizers, and many other volunteers leave me confident that the division is thriving.

I have had the opportunity to work with an outstanding group of officers this year, including Past Chair, Hamid Hamidzadeh; Vice Chair and Treasurer, Vijay Kumar; Technical Committee/IMECE Executive, Wei Chen;
EXECUTIVE COMMITTEE REPORTS

IDETC Executive, Sunil Agrawal; Publications Executive, Kurt Anderson; Honors and Awards Committee Chair, Yan Jin; and Secretary, Chris Rahn.

As has come to be the norm for the DED, this past year has been filled with activities as the division fulfills its vision to be a leader in covering the art, science, and application of design engineering and to facilitate transfer of design engineering technology between industry, academia and government through programs and publications.

The year was filled with many other activities, including participation in the International Mechanical Engineering Congress and Exposition (IMECE) in Denver; a greater presence in the Mechanical Engineering magazine that highlighted innovation and research by DED members, and of course a strong year by our six prestigious journals.

The driving force behind many of the division’s activities is its technical committees, which not only are the focal points for the work of the division but also connecting points for active ASME members. The division is proud to recognize much of that activity, and more importantly the creativity, scholarship, and engineering achievements through its many awards. The division’s funding is healthy as a result of the active membership and strong conference, and a great deal of those funds go to work in the technical committees themselves and particularly in over twenty individual committee, division, and society awards.

As I depart my position as Chair of the division, I encourage you to get involved. The committee on Broadening Participation of Minorities and Women (thanks to Janis Terpenny and Judy Vance) and the committee on Student Affairs and Early Career Professionals (thanks to Scott Ferguson who has stepped up to fill Matt Parkinson’s energetic shoes) offer easy ways for newcomers to find a home, or you can always come to one of the thirteen technical committees in your area of interest. The division functions at such a high level only because of its dedicated and creative members. Having the opportunity to work with so many of you has been, without question, the highlight of my time as chair. I wish you a good year, and look forward to seeing you at an upcoming conference.

REPORT ON DED TECHNICAL COMMITTEES

Chris Rahn, Technical Committee Executive

A s the largest technical division in ASME, the long-lasting success of the Design Engineering Division (DED) has been driven by the active participation of its members from various DED technical committees. The DED sponsors thirteen different technical committees that promote research and dissemination of knowledge in a wide range of areas related to engineering design. The primary activities of the technical committees are organization of conferences through which the community shares the latest research results and presents tutorials on topics of interest; support of technical journals; and recognition of individuals who have made outstanding contributions in research, education, or service to the engineering design community.

The dynamic nature of the Design Engineering Division is evident in the growth of its technical committees and the synergy among them. A new collaborative initiative between the technical committees of Multibody Systems and Nonlinear Dynamics (MSND) and Vibration and Sound (TCVS) aimed at the formal organization of a technological discipline known as Dynamics for Design has grown out of discussions amongst members of MSND and TCVS. The First Biennial International Conference on Dynamics for Design was held at the 2012 IDETC with additional conferences planned for even years.

This past year has seen a great deal of conference organizing activity within the division’s committees. The primary conferences in which the committees participate are the IDETC (in which each committee sponsors or co-sponsors a conference) and the International Mechanical Engineering Congress and Exposition (IMECE). The DED technical committees participated in many other conferences throughout the year; as an example, the MESA technical committee organized the 8th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA12).

One of the most gratifying activities for committee members is the opportunity to recognize researchers, innovators, and educators who have made significant contributions to the field. The technical committees sponsor a wide variety of awards each year, from best paper awards at conferences to young investigator awards to lifetime achievement awards. Several new awards have been established in recent years, such as the MNS Innovator Award by the Micro and Nanosystems Committee, the Young Investigator Award by the Design Automation Committee, the student best paper award by the Vehicle Design Committee, and the Koshi- Toshi Award by the DFMLC Technical Committee.

In addition to committee organizing activities such as revising bylaws, establishing operating procedures for its subcommittees, and electing new executive committee members, each technical committee has continued to work on the aspects of increasing the level of participation of its members, the visibility of the committee, and strengthening the relationships with industry. Whether you work in industry, government, or academia, participating in a technical committee is a great way to get involved in the DED. With the pressing demand for new methods in the practice of design engineering, the technical committees will continue to grow and the success will continue to rely on volunteer services from DED members and their new ideas.

REPORT ON HONORS AND AWARDS

Yan Jin, Committee Chair

As I depart my position as Chair of the division, I encourage you to get involved. The committee on Broadening Participation of Minorities and Women (thanks to Janis Terpenny and Judy Vance) and the committee on Student Affairs and Early Career Professionals (thanks to Scott Ferguson who has stepped up to fill Matt Parkinson’s energetic shoes) offer easy ways for newcomers to find a home, or you can always come to one of the thirteen technical committees in your area of interest. The division functions at such a high level only because of its dedicated and creative members. Having the opportunity to work with so many of you has been, without question, the highlight of my time as chair. I wish you a good year, and look forward to seeing you at an upcoming conference.

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artful and intelligent blending of digital media, hands-on experiences, analysis, aesthetic design and multidisciplinary mentoring,” and Professor Henry Petrovski from Duke University received the Barnett-Uzgiris Product Design Safety Award for “his distinguished career contributions that have influenced and promoted safety in design, including 17 books, and writings and lectures that have raised awareness of design safety among fellow engineers and the public at large.” In addition, two DED division level Committee Awards were also presented: Professor Singiresu S. Rao from University of Miami received the Design Automation Award for “pioneering contributions to design automation, particularly in multiobjective optimization, and uncertainty modeling, analysis and design using probability, fuzzy, interval, and evidence theories,” and Professor Vijay Kumar from University of Pennsylvania received the Mechanisms and Robotics Award for his “contributions to the design, analysis, control and empirical validation of mechanisms and robotic systems with application to multi-robot systems, unmanned aerial vehicles, and micro manipulation systems.”

For the next season of 2013, the DED H&A Committee asks that you identify a qualified candidate for an award and submit a nomination. We look forward to receiving multiple nominations for each of the society level and division level awards. The deadline for receipt of nomination materials is February 1. An early notice to the Chair of the DED H&A Committee will be helpful for planning if you intend to be a nominator and have a potential nomination. The ASME Society Awards include the Machine Design Award, the Spira Outstanding Design Educator Award and the Barnett-Uzgiris Product Safety Award. DED Division Awards include the Robert E. Abbot Award and Leonardo DaVinci Award. In addition, there are several Division level Committee awards that are administered by the different technical committees within the DED. More information about the awards along with the nomination procedures and forms can be found at ASME/DED website: divisions.asme.org/ded.

At the last DED Executive Committee meeting held in August, there emerged a proposal to create a division level Awards Nominations Committee which will be charged to identify qualified individuals in the community as candidates for all ASME and DED awards. The committee is in the process of being formed. If you have any comments or suggestions or need any award related information, please feel free to contact Yan Jin at yjin@usc.edu.

HONORS AND AWARDS

CONFERENCE REPORTS

IDETC-CIE 2011

Nader Jalili • General Conference Chair • Northeastern University, njalili@neu.edu
Bogdan Epureanu • Technical Program Co-Chair • University of Michigan, epureanu@umich.edu
Harry Dankowicz • Technical Program Co-Chair • University of Illinois at Urbana-Champaign, danko@illinois.edu

The 2011 IDETC-CIE was held during August 28-31 in Washington DC. It consisted of thirteen conferences, of which twelve were organized by various technical committees in the ASME Design Engineering and the Computers and Information in Engineering Divisions, and one was cooperatively organized with IEEE.

Of the 1465 draft papers originally submitted to the conference, 1209 were included in the final technical program. In addition, the conference contained 15 conference-specific and 4 symposium-specific keynote lectures, 13 conference-specific panel sessions and 10 workshops sponsored by various technical committees and conferences.

In addition to the excellent technical program and despite the severe weather prior and during the conference, the 2011 IDETC-CIE offered a number of receptions and social events on all three days of the conference. Among these, a conference-wide reception was held at the Hyatt Regency on Capitol Hill. The program also included a conference-wide breakfast for all attendees each morning, a Student Networking Reception, and a 2012/2013 Kickoff Social on Wednesday evening.

The conference truly represented a premier international forum where leading experts with various design backgrounds and experiences effectively showcased and shared their newest ideas, cutting-edge research results, and developing methodologies and tools with their peers.

IDETC-CIE 2012

Many thanks to all those who attended the 2012 ASME IDETC-CIE Conference August 12-15 at the Hyatt Regency McCormick Place Convention Center in the South Loop of Chicago. The roughly 1100 registered attendees saw the presentation of 885 papers accepted for publication, and students constituted a robust 40% of these attendees, which bodes well for the future development of the conference and the research communities it serves. On Sunday August 12, eleven workshops were held on topics spanning the IDETC-CIE-covered disciplines, and some attendees toured five of the motor control and biomechanics laboratories at the nearby Rehabilitation Institute of Chicago, ranked the top rehabilitation hospital in the U.S. for more than two decades. The Opening Reception on Monday evening featured Chicago-style street food at Navy Pier, where the rooftop terrace offered terrific views of Lake Michigan and the cloud-engulfed Chicago skyline, as well as the sounds of local blues musicians. The conference emphasized community building and networking opportunities with breakfasts for all attendees each day, a conference-wide lunch on Tuesday, and both DED and CIE award receptions Tuesday evening to recognize excellence within the DED and CIE divisions. Student activities included a reception later on Tuesday evening. None of this would have been possible without the hard work of our Conference Chairs and Program Chairs, their Symposium and Session Chairs, and the authors and reviewers. We would especially like to thank all of these contributors for their diligence in meeting the prescribed deadlines. We thank the members of the Organizing Committee, Phil Vogelweide (Marquette University), Craig Goehler (Valparaiso University), Andres Tovar (Indiana-Purdue University, Indianapolis), Matthew Parkinson (Penn State) and Justin Seipel (Purdue University). Finally, we express our gratitude to the ASME Staff and foremost to Ms. Erin Dolan without whom the organization of these conferences would have been unbearable. We wish Erin all the best in her new position with ASME.
On behalf of the ASME Design and the Computers in Engineering Divisions, it is our pleasure to invite you to participate in the 2013 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. This event will take place August 4-7, 2013 in Portland, Oregon. The conference is the flagship international meeting for Design Engineering and includes the following conferences:

- 37th Mechanisms and Robotics Conference (MR)
- 25th International Conference on Design Theory and Methodology (DTM)
- 18th Design for Manufacturing and the Life Cycle Conference (DFMLC)
- 25th International Conference on Design and Education (DEC)
- 37th Mechanisms and Robotics Conference (MR)
- 2013 ASME/IEEE International Conference on Mechatronic and Embedded Systems and Applications (MESA2013)
- 7th International Conference on Micro- and Nanosystems (MNS)
- 9th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC)
- 12th ASME International Power Transmission and Gearing Conference (PTG)
- 22nd Reliability, Stress Analysis, and Failure Prevention Conference (RSAFP)
- 25th Biennial Conference on Mechanical Vibration and Noise (VIB)

The conference will be held at the Oregon Convention Center in Portland, Oregon and the DoubleTree by Hilton Portland will serve as the conference hotel. The central location sets guests right in the heart of all that Portland has to offer. Conveniently located in the Lloyd District, the hotel provides easy access to shopping and many other family activities. Explore the local area and enjoy the many restaurants, coffee shops, spas and boutique shops, all within walking distance from the hotel.

Technical papers describing research results are solicited for the 2013 IDETC-CIE which will also include plenary sessions, keynote lectures, and tutorials on topics related to engineering design and computers in engineering. These conferences provide a unique forum for the sharing of recent research results as well as networking with friends and colleagues. Industry participation is particularly encouraged so that the conferences may provide opportunities for fruitful exchanges between the research and industrial communities. The abstract submission deadline is January 7, 2013 and draft papers are to be submitted by January 21, 2013. The full publication schedule and more information is available on the conference website at www.asmeconferences.org/IDETC2013.

We look forward to welcoming you to Portland, OR in August 2013!
expected. The Design Innovation paper category is encouraged for reporting about novel devices for which there may be less extensive clinical or engineering results.

Papers are invited for submission to the Journal of Medical Devices in the following suggested categories: new medical sensors/actuators, orthopedic devices, cardiovascular devices, rehabilitation devices, neurological devices, bioheat transfer devices, medical instrumentation, image guided intervention/treatment, endoscopic/laparoscopic devices, minimally invasive devices, human performance/force assessment, tissue engineered devices, drug/cell delivery systems, medical robotics, medical device design processes, medical device manufacturing, human factors in medical devices, and sports biomechanics related to devices.

The Journal takes advantage of the annual Design of Medical Devices Conference (DMD) www.dmd.umn.edu and its review process. In 2012, 103 one page papers were published in the March ’12 issue based on accepted submissions to the 2012 DMD Conference. The September 2012 issue will mark five full years of this Journal and we currently have over 1,200 subscribers.

Journal of Vibration and Acoustics
Noel Perkins, Editor

I am delighted to offer this summary of the status and recent initiatives for the JVA. Over the past year, we substantially raised the visibility of JVA by launching an electronic newsletter titled The Latest Vibe, which is now being emailed quarterly to over 5000 recipients. This newsletter provides 1) immediate access to the JVA table of contents, 2) a top ten list of our most cited papers, and 3) announcements of ASME-sponsored conferences/events related to our field. The Latest Vibe represents the first electronic newsletter created for ASME journals, and it is quickly being adopted by other journals. Second, due to increased submissions and publishing activity, the page count for JVA has been increased from 800 to 900 pages annually. This is timely due to our ever increasing number of submissions which will again achieve an all-time high this year. Third, we launched a special issue on the theme Dynamics of Phononic Materials and Structures. This issue is led by Mahmoud Hussein (Univ. Colorado – Boulder) and Massimo Ruzzene and Michael Leamy (Georgia Tech). Another project, initiated by Harry Dankowicz - Editor of ASME Applied Mechanics Reviews (AMR), is a collaborative issue of AMR that will feature review articles and broader communications of great interest to our readership. Looking immediately ahead, we’ve launched an additional special issue for JVA on the topic of Fractional Calculus in Vibration and Acoustics. This issue is led by Thomas Royston, Dieter Klatt, and Richard Magin, (Univ. Illinois – Chicago) with Francesco Mainardi (Univ. Bologna).

Design Automation
Kemper Lewis, Outgoing Committee Chair

The DAC promotes research and disseminates knowledge in four key areas related to Design Automation: (1) Design Representation, (2) Design Optimization, (3) Design Evaluation, and (4) Design Integration.

For the 2012 ASME IDETC held in Chicago, 156 papers were submitted to the Design Automation Conference and 122 papers were accepted. The accepted papers were presented in 22 technical sessions. The Ford Motor Company Best Paper Award went to Hongyi Xu, M. Steven Greene, Wei Chen, Hua Deng, Catherine Brinon, Dmitriy Dikin, Wing Kam Liu, Craig Burkhart, George Papakonstantopoulos, and Mike Poldneff for their paper, “Stochastic Reassembly for Managing the Information Complexity in Multilevel Analysis of Heterogeneous Materials” (DETC2012-70668).

Our DAC Keynote Speaker Dr. Julio Mario Ottino, Dean of the Robert R. McCormick School of Engineering and Applied Sciences at Northwestern University; shared his views on design with a fascinating presentation on navigating the domains of art, technology, and science. In addition, we had a special panel session on the opportunities and challenges of Industrial Design Automation in the Cloud, organized by Dr. Julian Norato (Caterpillar).

Prof. Singiresu S. Rao from the University of Miami was the recipient of the 2012 Design Automation Award and Prof. Erin MacDonald from Iowa State University received the 2012 DAC Outstanding Young Investigator Award.

Dr. Carolyn Seepersad (University of Texas-Austin) was elected to serve on the Executive Committee as the Special Sessions Paper Chair for the 2013 ASME IDETC - Design Automation Conference in Portland, OR. She will join Committee Chair Dr. Gary Wang (Simon Fraser University, British Columbia), Conference Chair Dr. Horea Ilies (University of Connecticut), and Program Chair Dr. Matt Parkinson (Penn State University), and Industry Liaison Dr. Julian Norato (Caterpillar). Dr. Kemper Lewis (University at Buffalo – SUNY) serves as the Committee’s Past Chair. Dr. Horea Ilies also maintains the websites for our conference and committee: cdl.engr.uconn.edu/asmueda.

We are looking forward to the 2013 ASME IDETC Design Automation Conference in Portland, Oregon and invite companies interested in design automation to attend. Benefits include seeing the state-of-the-art in design automation research, opportunities to dialogue and collaborate with academic researchers and vendors, and access to outstanding students from top universities.

Design for Manufacturing and Life Cycle
Marcos Esterman, Committee Chair

The primary activity of the DFMLC Technical Committee is organizing the DFMLC Conference at the ASME IDETC. It has become a primary international forum for the exchange of technical and scientific information on the theory and practice of design for manufacturing and the life cycle methods. Qingjin Peng (University of Manitoba) and Derrick Tate (Texas Tech University)
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organized the 2012 DFMLC, which resulted in sixty-four submitted papers of which fifty-six were accepted.

In recent years, the conference organizers have worked to increase the scope of the papers presented at the conference, especially in the areas of design for environment and other life cycle concerns. This past year this emphasis resulted in four separate sessions in the area of sustainable design. A session worth highlighting was on Sustainable Design of Industrial Systems, which was co-organized by Bernard Yannou, Yann Leroy and Romain Farel (Ecole Centrale Paris) and Kazuhiro Saitou (University of Michigan). It represents the type of international collaboration we would like to see more of in our community.

Dr. David Kazmer (University of Massachusetts —Lowell) was honored as the second recipient of the DFMLC Ishii-Toshiba award. This award is given to recognize the sustained meritorious contributions to the use of optimization and other modeling techniques to support design, manufacturing and the life cycle management decisions in product development. It was established in memory of the late Kosuke Ishii, a professor of mechanical engineering at Stanford University. If you are aware of candidates that meet the above criteria, please consider nominating them. Their nomination package will remain in active consideration for a three year period.

As we look to the future, the DFMLC Technical Committee seeks to continue to be an important venue for disseminating research into sustainable design, as well as to continue to foster international collaborations in support of those research efforts. In addition, we seek to increase industry participation to keep us more meaningfully engaged in addressing the technical problems that are relevant to industry. To that end, Derek Johnson (FEV, Inc.) has agreed to be the Industry Liaison for the DFMLC Technical Committee for 2013. Lastly, we have been researching our roots and we encourage any past DFMLC'ers, to reach out and to reconnect with us!

For the 2013 DFMLC in Portland, Oregon, Derrick Tate (Texas Tech University) will be the conference chair and Fu Zhao (Purdue University) will be the program chair. The committee officers for 2012-2013 are Shun Takai (Chair), Gul Kremer (Vice-Chair), and Qingjin Peng (Secretary). For more information, please contact Marcos Esterman at 585-475-6922 or marcos.esterman@rit.edu.

Design Theory and Methodology
Daniel A. McAdams, Committee Chair

The mission of the DTM Committee is to facilitate and enhance the development of design theories and the methods that grow from them.

The 24th International Conference on Design Theory and Methodology was held at IDETC2012 in Chicago, IL. Irem Y. Tumer of Oregon State University was the Conference Chair and Andy Dong of The University of Sydney was the Program Chair.

The 2012 conference consists of 14 technical sessions. This year there were 94 papers submitted and 52 papers accepted (for an acceptance rate of 55%), with 14 papers accepted that had at least one author from an institution outside the United States. The best paper award was given to “The Meaning of ‘Near’ and ‘Far’: The Impact of Structuring Design Databases and the Effect of Distance of Analogy on Design Output” by Katherine Fu, Joel Chan, Jonathan Cagan, Kenneth Kotovsky, Christian Schunn, and Kristin Wood, DETC2012-70420.

For the 25th Annual DTM Conference in 2013, Andy Dong of The University of Sydney will be the Conference Chair and Matthew I. Campbell of The University of Texas at Austin will be the Program Chair. These positions were elected by the membership at the DTM committee meeting at IDETC2011 in Washington DC.

This year, a DTM Technical Committee Award was created. Briefly, the award is to recognize sustained and meritorious contributions to research; education; service; training of researchers or practitioners; overall leadership in advancing the field; or any combination of these in the field of Design Theory and Methodology. Nominations are due by February 1st of each year and submitted to the DTM Technical Committee Chair. Details of award including the nomination and review process can be found at divisions.asme.org/ded/Honors_Awards.cfm. To create the award, an ad hoc committee was formed consisting of Jonathan Cagan, Levent Burak Kara, Li Shu, Joshua Summers, Irem Tumer, and Daniel McAdams serving as chair.

Officers currently serving the second year of two-year terms that began on July 1 2011 are Chair: Daniel A. McAdams, Texas A&M University; Vice-chair: Joshua D. Summers, Clemson University; and Secretary and Webmaster: Levent Burak Kara, Carnegie Mellon University. New officers elected at IDETC2012 with terms beginning July 1, 2013 are Chair: Robert B. Stone, Oregon State University; Vice-chair: Julie S. Linsey, Texas A&M University; and Secretary and Webmaster: Seth Orborn, Bucknell University.

Mechatronic and Embedded Systems and Applications
Martin Horauer, Committee Chair

The MESA Committee provides a forum for technical discussions and interactions on topics related to emerging technologies in mechatronic and embedded systems that impact critical research and engineering issues. The primary goal of the MESA Committee is to enhance the practice of engineering through dissemination of technological advances and innovations of mechatronic and embedded systems. It aims to bring multi-disciplinary researchers in Mechanical Engineering, Electrical Engineering, Computer Science, and other disciplines together to contribute to and influence the future directions of design and applications of mechatronic and embedded systems.

Since 2005, the committee organizes the annual international conference on Mechatronics and Embedded Systems and Applications that is sponsored by ASME/DEd in odd numbered years and by IEEE/ITSS and IEEE/CSS in even numbered years. In 2012 the IEEE/ASME MESA’12 was held in Suzhou, China from July 8-10. 60 papers were accepted for publication and oral presentation. The keynote was given by Professor Hui Peng (University of Michigan, USA) on “Design and Control of Hybrid Electric Vehicles.” A plenary talk on “Mobile Robots: A Journey of Walk, Claw and Climb” by Prof. XiaQi Chen (University of Canterbury, New Zealand) enriched the program. The topics that were presented and discussed at the meeting were in the fields of: autonomous systems & ambient intelligence, bio-mechantronics, design, verification, and diagnosis methodologies for mechatronic and embedded systems, fractional order dynamics and applications, hybrid electrical vehicles and robotics, robotics and mobile machines, sensors and actuators, small unmanned aerial vehicle technologies, and virtual prototyping in mechatronics.

The 2012 MESA Achievement Award was presented to Prof. Fei-Yue Wang (Chinese Academy of Sciences, University of Arizona, Xian Jiaotong University) for a cumulative contribution to the field of Mechatronic and Embedded Systems and Applications.

The MESA technical committee is now organizing the 2013 ASME/IEEE International Conference on Mechatronic and Embedded Systems and Applications which will take place during IDETC-CIE 2013. Furthermore, the committee members are planning to bring IEEE/ASME MESA 2014 to Europe for the first time.

Micro & Nano Systems
Edward Berger, Committee Chair

The MNS Committee, though only a few years old, continues to evolve into a community of researchers and practitioners focusing on diverse areas of MNS activity. And in the coming years, we will offer several new ways—in addition to our annual MNS conference held in conjunction with the IDETC—for the continued on page seven
COMMITTEE REPORTS

community to contribute to the knowledge base and network with their peers.

We are excited to announce nascent partnerships with two flagship ASME journals: the Journal of Mechanisms and Robotics (JMR) and the Journal of Vibration and Acoustics (JVA). We expect to offer a special issue of the JMR in 2013 devoted to MNS applications in mechanisms and robotics. The special issue will be edited by S.V. Sreenivasan from the University of Texas-Austin, and it will feature the best work from leading researchers in the area. In 2014, we expect to offer a special issue in JVA devoted to the dynamics and vibrations of micro- and nanosystems. We are thrilled to announce these partnerships, and we invite the community to contribute papers for consideration in these special issues.

We are also excited to announce the MNS Innovator Award. This award recognizes impact and innovation across MNS research areas, including entrepreneurship and technology transfer, education and training of researchers and/or practitioners, and overall leadership in advancing the micro- and nanosystems engineering field. The inaugural award will be presented at IDETC 2013 in Portland, and the MNS committee is currently accepting nominations.

For more information about the MNS Committee and the MNS Innovator Award, or to make a nomination, please visit: sites.google.com/site/mnsasme/.

Multibody Systems and Nonlinear Dynamics

Aki Mikkola, Committee Chair

The Technical Committee promotes research, application, and educational initiatives in experimental, symbolic, computational, and analytical activities pertaining to Multibody Systems and Nonlinear Dynamics and related technical areas. To this end, the Committee engages in active outreach under the ASME umbrella that has led to the organization of eight biannual conferences starting in 1995.

Since October 2011, the TC-MSND has re-established the Conference Coordination, Honors (chaired by Professor Dan Negrut), and Membership Nominations subcommittees. The Conference Coordination subcommittee has been active in preparing the 9th International Conference on Multibody Systems, Nonlinear Dynamics, and Control. Based on suggestions made by the subcommittee, the upcoming conference includes 17 technical sessions organized into four tracks.

The Membership Nominations subcommittee put out a membership call requesting nominations of interested and qualified members of the community. From the ten outstanding candidates that were nominated. Hiroyuki Sugiyama and Stefano Lenci have been elected and began their tenure on July 1, 2012.

The TC-MSND sponsored the organization of the First Biennial International Conference on Dynamics for Design (DFD), which was held as part of the 2012 IDETC. Dynamics for Design is a new and interesting initiative that aims to integrate recent developments in modeling and system dynamics - including the role of nonlinearities, vibration analysis, multibody systems, and computational dynamics - with current design methodologies. This integration provides opportunities to improve the performance of complex, dynamic engineered systems in terms of reduced design cycle times, improved system reliability, and consistent behavior across operating environments.

The TC-MSND was also a sponsor of the 2nd Joint International Conference on Multibody System Dynamics (IMSD2012), organized at the University of Stuttgart, Germany, which included 56 sessions, hosting 192 technical presentations authored by more than 450 authors. The event drew 299 participants from 29 different countries.

More information about the committee's activities is available at divisions.asme.org/IDED/MULTIBODY_SYSTEMS_NONLINEAR.cfm, or log in to the recently established Facebook page [ASME MSND Technical Committee] or the LinkedIn site [ASME MSND Technical Committee].

Power Transmission and Gearing

Avinash Singh, Committee Chair

The objective of the PTG Committee is to promote activities and education supporting the science of power transmission and gearing. We promote the dissemination of knowledge and information pertinent to power transmission and gearing through sponsorship of technical papers, technical meetings, seminars, and conferences.

The PTG Committee successfully hosted the 11th ASME International Power Transmission and Gearing Conference as part of IDETC 2011 in Washington, DC. This was a truly global conference and there were a total of 70 technical papers from researchers in North America, Europe, and Asia. In all, authors from twenty different countries presented their work in all aspects of gearing and power transmission fundamentals and application. Topics that were covered included gear system design and analysis, gear strength and durability, gear system dynamics and noise, gear manufacturing, power loss in gear systems, surface engineering and tribology, bearings, wind turbine gears, and plastic gears.

In addition to the technical sessions, a special panel discussion was held where leading industry experts discussed the needs of their industry, and the fundamental and applied research work that is needed to solve these issues. There was also a plenary session – the Buckingham Lecture. Our guest speaker this year was Dr. Ahmet Kahraman, Professor of Mechanical Engineering at The Ohio State University who shared his views on the “Current Gaps and Future Directions in Gear Research.”

The PTG Committee bestowed the 2nd Darle W. Dudley Award for outstanding contributions to the PTG community to Dr. Aizoh Kubo, Professor Emeritus at Kyoto University, Japan. This award recognizes those who have made significant life-long contributions to the art and science of gear and power transmission technology.

In 2012, the PTG Committee approved a change in the term of office holders from the current 4 years to 2 years. This brings the service length in line with various other committees and with our conference organizing schedule. The committee feels that the shorter commitments and greater leadership opportunities will help attract new members, and encourage younger professionals to volunteer their services.

Effective Oct. 2012, Dr. Timothy Krantz will take over as Chair of the PTG Committee and Dr. Robert Handschuh has been elected as the new Vice Chair. This team will lead the organization effort for our next conference at the 2013 IDETC.

For more information about our activities please visit our website at asmeptg.org.

Vehicle Design

Corina Sandu, Committee Chair

The VDC is a leading technical committee for advancing and deploying new techniques and skills in the area of vehicle dynamics. VDC promotes computational and experimental investigations in control, dynamics, and design of full vehicle, including conventional IC engine powered platform as well as hybrid EV platform systems and their subassemblies. With the ever-rising demands on passenger safety, human-vehicle interface and human behavior modeling/simulation are also embedded into the technical spectrum of VDC. Our members' affiliations cover a large spectrum of university, industry, and government agencies. They perform fundamental research, applied research, and successful technology implementations for light and heavy vehicle design, modeling, control, testing, and validation. VDC encourages collaboration among the committee members.

The VDC organizes an annual International Conference at the IDETC continued on page eight
entitled “Advanced Vehicle Technologies (AVT)”. Papers are invited on innovative analytical, computational, and experimental investigations in the design of full vehicle systems and their sub-systems, as well as on studies for safety and ergonomics, alternative fuels and intelligent transportation systems.

In 2013 we will organize the 15th International Conference on Advanced Vehicle Technologies. The conference will be chaired by Prof. Massimiliano Gobbi from Politecnico di Milano, and co-chaired by Prof. Moustafa El-Gindy from University of Southern California, Los Angeles, California 90089

The conference venues.

TCVS sponsored the 24th Conference on Vibration and Noise at the IDETC in Chicago. Rob Parker was the Vibrations Conference Chair. There were over 160 papers and presentations on the program. Meanwhile, TCVS co-sponsored (with the MSND Technical Committee) the inaugural Dynamics for Design Conference, with Dane Quinn of TCVS and Harry Dankowicz of MSND as the Conference co-Chairs, which included another 40 papers.

The Vibrations Conference also featured a student paper competition, with awards going to the top three student-authored papers. First place went to Rob Kuether of the University of Wisconsin, second place went to Dennis Tweed of Duke University, and third place went to Smruti Panigrahi of Michigan State University.

TCVS has flourished under leadership of the past chair Professor Brian Feeny of Michigan State University. He has implemented important changes approved by TCVS members, including inception of annual Conference on Vibration and Noise, inauguration of Dynamics for Design Conference, and improvements on Student Paper Competition.

For more information about TCVS, please visit the website at sites.google.com/site/asmetcvs/ or contact I. Y. (Steve) Shen, (206) 543-5718; ishen@u.washington.edu.

Vibration and Sound

I. Y. (Steve) Shen, Committee Chair

The Technical Committee on Vibration and Sound (TCVS) provides leadership for promoting research, honoring high achievement, and disseminating knowledge in all areas related to mechanical vibration, acoustics, dynamics and controls. The TCVS membership consists of representatives from academia, government, and industry. TCVS recognizes especially strong contributors to vibration and sound by administering the society-level J. P. Den Hartog Award for lifetime contributions, and the committee-level N. O. Myklestad Award for a special innovative contribution. These awards, respectively, were most recently awarded to C. S. Hsu (U.C. Berkeley) and Noel Perkins (U. of Michigan) in 2011. The next winners of these biennial awards will be presented at the IDETC in 2013. For information on the nomination process, see the TCVS webpage.

Another of TCVS’ main activities is the organization of the Conference on Mechanical Vibration and Noise, now an annual part of the IDETC. In addition, TCVS members and friends organize reviewed paper sessions, lectures and panel sessions at the annual IMECE and other conference venues.

ASME Design Engineering Division

Executive Committee Roster, July 1, 2012 – June 30, 2013

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