

ASME Design Engineering Division

General Committee Meeting

Tuesday, September 1st, 2009

2:00 – 5:00 pm

San Diego Convention Center

Room 27A

San Diego, California

Report Submitted for the ASME Design Engineering Division General Committee Meeting

**Tuesday September 1st, 2009, 2:00 – 5:00 pm
San Diego Convention Center, Room 27A
San Diego, California**

Meeting Agenda	1
Minutes of August 2008 General Committee Meeting	2
Chair's Report (A. Shabana)	8
<u>Technical Committee and IMECE Reports</u> (W. Clark)	13
Design Automation (K. Saitou)	15
Design Education (G. Kremer)	17
Design for Manufacturing and Life Cycle (K. Saitou)	18
Design Theory and Methodology (L. Shu)	19
Fastening and Joining (E. Iarve)	20
Mechanisms and Robotics (J. Rastegar)	21
Mechatronic and Embedded Systems and Applications (H. Cheng)	23
Micro and Nano Systems (A. Raman)	27
Multibody Systems and Nonlinear Dynamics (B. Balachandran)	30
Power Transmission and Gearing (A. Kahraman)	32
Reliability, Stress Analysis, and Failure Prevention (T. Sawa)	
Vehicle Design (B. Gilmore and C. Sandu)	33
Vibration and Sound (C. Rahn)	36
<u>Liaison Reports - Journals</u>	
Journal of Mechanical Design (P. Papalambros)	39
Journal of Mechanism and Robotics (J.M. McCarthy)	43
Journal of Vibration and Acoustics (K.W. Wang)	46
Journal of Computational and Nonlinear Dynamics (S. Sinha)	50
Journal of Computing and Information Science in Engineering (J. Shah)	56
Journal of Medical Devices (A. Erdman)	59
Vice Chair/Treasurer's report (H. Hamidzadeh)	76
IDETC Report (V. Kumar)	83
<u>Standing/Special Committee Reports</u>	
Constitution and Bylaws (L. Schmidt)	85
Government Relations (I. Tumer)	86
Honors and Awards (G. Fadel)	94
Nominating Committee (J. Vance)	95
U.S. Council for the Theory of Machines and Mechanisms (H. Lipkin)	96

Design Society (W. Seering)	97
Publicity and Newsletter (J. Michalek)	99
Student Affairs (M. Parkinson)	108
Information Management (S. Gooch)	109
K-12 Awareness of Design Engineering (K. Jacobson)	110
Broadening Participation of Women and Minorities (J. Terpenney)	112
Publications (K. Anderson)	113
Innovation and Entrepreneurship (J. Rastegar)	114
Professional Engineering Licensure (A. Karvelis)	

Agenda

Tuesday September 1st, 2009, 2:00 – 5:00 pm
San Diego Convention Center, Room 27A
San Diego, California

- | | | |
|---|-------------------------|---------|
| 1. Call to Order | A. Shabana | 2:00 pm |
| 2. Approval of Minutes | W. Chen | 2:02 pm |
| 3. Report of the Executive Committee | A. Shabana | 2:05 pm |
| 4. Technical Committee and IMECE Reports | W. Clark | 2:15 pm |
| (Please limit each committee report to 3 minutes) | | |
| (a) Design Automation | K. Saitou | |
| (b) Design Education | G. Kremer | |
| (c) Design for Manufacturing and Life Cycle | K. Saitou | |
| (d) Design Theory and Methodology | L. Shu | |
| (e) Fastening and Joining | E. Iarve | |
| (f) Mechanisms and Robotics | J. Rastegar | |
| (g) Mechatronic and Embedded Systems and Applications | H. Cheng | |
| (h) Micro and Nano Systems | A. Raman | |
| (i) Multibody Systems and Nonlinear Dynamics | B. Balachandran | |
| (j) Power Transmission and Gearing | A. Kahraman | |
| (k) Reliability, Stress Analysis, and Failure Prevention | T. Sawa | |
| (l) Vehicle Design | B. Gilmore and C. Sandu | |
| (m) Vibration and Sound | C. Rahn | |
| 5. Liaison Reports | | |
| (Please limit each report to 3 minutes) | | 3:00 pm |
| (a) Journal of Mechanical Design | P. Papalambros | |
| (b) Journal of Mechanism and Robotics | J.M. McCarthy | |
| (c) Journal of Vibration and Acoustics | K.W. Wang | |
| (d) Journal of Computational and Nonlinear Dynamics | S. Sinha | |
| (e) Journal of Computing and Information Science in Engineering | J. Shah | |
| (f) Journal of Medical Devices | A. Erdman | |
| 6. Vice Chair/Treasurer's report | H. Hamidzadeh | 3:20 pm |
| (Funding levels allocations in committee accounts) | | |
| 7. IDETC Technical Conferences | V. Kumar | 3:35 pm |
| 8. ASME Meeting Department | R. Ulvila | 3:50 pm |
| 9. Standing/Special Committee Reports | | |
| (Please limit each committee report to 2 minutes) | | 4:00 pm |
| • Constitution and Bylaws | L. Schmidt | |
| • Government Relations | I. Tumer | |
| • Honors and Awards | G. Fadel | |
| • Nominating Committee | J. Vance | |
| • USCToMM | H. Lipkin | |
| • Design Society | W. Seering | |
| • Publicity and Newsletter | J. Michalek | |
| • Student Affairs | M. Parkinson | |
| • Information Management | S. Gooch | |
| • K-12 Awareness of Design Engineering | K. Jacobson | |
| • Broadening Participation of Women and Minorities | J. Terpenney | |
| • Special Committee on Publications | K. Anderson | |
| • Innovation and Entrepreneurship | J. Rastegar | |
| 10. Old Business | | 4:30 pm |
| 11. New Business | | 4:40 pm |
| 12. Adjourn | | 5:00 pm |

ASME Design Engineering Division General Committee Meeting Minutes of the meeting on Tuesday, August 5, 2008, 15:00-18:00 EDT

Present: Judy Vance, Buddy Clark, Ahmed Shabana, Richard Ulvila, Hamid Hamidzadeh, Kazem Kazerounian, Nhora Cortes-Comever, Vijay Kumar, Tim Simpson, Frank Liou, Panos Papalambros, Phil Doepker, Farhad Tahmasebi, Jeffrey Mountain, Laxman Saggere, Matt Parkinson, Kurt Anderson, Gordon Pennock, Tom Chase, Jeremy Michalek, Georges Fadel, Michael J. Scott, Jami Shah, Kazu Saitou, Chris Rahn, Gul Kremer, and Corina Sandu

1. **Call to order.** K. Kazerounian called the meeting to order at 15:05.

2. **Approval of minutes.**

The minutes of the DED General Committee Meeting held on Wednesday, September 5, 2007, were unanimously approved.

3. **Report of the Executive Committee**

K. Kazerounian presented the Executive Committee Chair's report (oral and written). The Division is in great shape, both operationally and financially, thanks to the excellent leadership of the past chair, J. Vance. He summarized the new committees that have been established in the DED.

New committees

- Standing Committee on Publications. Kazerounian proposed a Publications Committee to oversee DED journals and other publications. The chair of this committee will be a "member at large" of the executive committee with voting power. The term of this position is three years, renewable for a second three-year term. The election and renewal process is similar to the election of regular executive committee members as overseen by the nomination committee and governed by the DED by-laws. Qualifications of the chair of the publication committee include broad experience in journals and publications activities, without having a concomitant role as a DED journal editor or DED Conference Program Chair.
- Standing Committee on Awards and Honors. The DED has had a standing committee on Honors and Awards. Kazerounian proposed to make the chair of the Honors and Awards Committee a "member at large" of the executive committee with voting power. The term of this position is three years, renewable for a second three-year term. The election and renewal process is similar to the election of regular executive committee members as overseen by the nomination committee and governed by the DED by-laws.
- Special Committee on Broadening Participation. Kazerounian proposed a Committee on Broadening Participation to develop, implement and oversee new and existing activities aimed at broadening the participation of women and underrepresented minorities.

New committee chairs

- Linda Schmidt will chair the Standing Committee on Constitution and By-laws.

- Irene Tumer will take over as the chair of the Special Committee on Government Relations.

4. Vice Chair/Treasurer's Report

A. Shabana presented the Vice Chair/Treasurer's Report (oral and written).

- The division finances are in good shape. The distribution from the 2007 IDETC conference resulted in revenues of nearly \$200,000 for the division. IDETC is now the most successful and profitable conference for DED, surpassing IMECE by over \$80,000 in revenues.
- There is still some difficulty in getting information on balances in different accounts in a timely fashion. The new online system will allow the Treasurer and TC Chairs to review these balances and this will make it easier for the division and the TCs to plan their activities.
- The Executive Committee will make available additional matching funds for TC awards. A maximum of \$5000 of matching funds per award with a maximum of two new or existing awards will be made available to each committee.

5. Technical Committee and IMECE Reports

IMECE Report (W. Clark)

The 2007 IMECE conference reported revenues of \$118,462.60 with attendance of 3,184. The 2008 IMECE congress will be held in Boston, November 2-6, 2008.

Technical committee reports

a) Design Automation (T. Simpson)

Simpson presented a written and oral report. The conference featured 126 paper presentations and an exciting plenary talk.

b) Design Education (G. Kremer)

Kremer presented a written and oral report. There were 25 DEC papers (and not 23 as stated in the written report). The Young Designers Competition was funded this year with the support from DED (\$3600). Kazerounian asked if the competition would be able to sustain itself. The DEC is looking for corporate sponsors and naming opportunities.

c) Design for Manufacturing and the Life Cycle (E. Morse)

Morse presented a written and oral report. This year's conference features 33 papers. K. Saitou is Vice Chair and P. Sandborn is Secretary.

d) Design Theory and Methodology (M. Scott)

Scott presented a written and oral report. 47 DTM papers with an acceptance rate of 48.4% were presented. A special 20th anniversary gala dinner was arranged by DTM in lieu of the luncheon. Scott thanked DED and ASME for facilitating the registration and budgeting for the dinner.

e) Fastening and Joining (E. Iarve)

No oral report was presented.

f) Mechanisms and Robotics (G. Pennock)

Pennock presented written and oral reports. 163 MR papers were presented in 9 symposia. The DED Mechanisms and Robotics Committee Award was presented to Dr. Clement Gosselin. The committee has developed new by-laws to reflect the new Journal of Mechanisms and Robotics.

g) Micro and Nano Systems (L. Saggere)

Saggere presented written and oral reports. This is the second conference on micro and nano systems. The conference attracted new members attending IDETC for the first time. The conference features 58 papers reflecting a significant growth from the first conference.

h) Multibody Systems and Nonlinear Dynamics (K. Anderson)

Anderson presented written and oral reports. MSNDC members, Anderson and Flowers, will organize the 2009 IDETC conference.

i) Power Transmission and Gearing (A. Kahraman)

No oral report was presented.

j) Reliability, Stress Analysis, and Failure Prevention (T. Sawa)

No oral or written report was presented.

k) Vehicle Design (B. Gilmore and C. Sandu)

Sandu presented the oral and written reports. The VDC organized the 10th International Conference on Advanced Vehicle and Tire Technologies. The committee has 40 members approximately half of which are active. GM and Chrysler sponsor best paper awards.

l) Vibration and Sound (C. Rahn)

Rahn presented the oral and written reports. The TCVS wants to make the Den Hartog award a division level award. The balance in this account is over \$45,000. They have endorsed a proposal by TCVS member, N. Jalili, to host the 2011 conference. They are considering participating in even years. Currently TCVS conference organization activities are limited to odd years.

6. Liaison Reports

a) Journal of Mechanical Design (P. Papalambros)

Papalambros presented oral and written reports. Significant events of the past year include the transition from J. M. McCarthy to P. Pabalambros as Technical Editor of Journal of Mechanical Design (JMD) and the approval of the new Journal of Mechanisms and Robotics (JMR). The impact of the new journal on submissions to JMD has been minimal. JMD needs associate editors for fastening and joining, and for design education. JMD now has a new category of papers called *Design Innovation*.

b) Journal of Vibrations and Acoustics (K-W. Wang)

C. Rahn presented the oral and written reports on behalf of Wang.

c) Journal of Computing and Information Science (J. Shah)

Shah presented oral and written reports. JCISE has an advisory board which includes two representatives from DED and from CIE. The two DED representatives, A. Parkinson (now Dean of Engineering at BYU) and B. Ravani (now Chair of ASME Publications Committee), may be overcommitted. Shah suggested that DED consider replacements to serve on the JCISE advisory board. JCISE receives approximately 150 submissions and approximately 50 are published each year. JCISE is transitioning from *E-Lane* to the ASME Journal Web Tool.

c) Journal of Medical Devices

No oral report was presented.

d) Journal of Mechanical Design

No oral report was presented.

e) Journal of Computational and Nonlinear Dynamics

No oral report was presented.

7. IDETC Reports

H. Hamidzadeh presented written and oral reports.

- *2008 IDETC/CIE*: The conference is a success! There are over 800 registrations of which 260 are students.
- *2009 IDETC/CIE*: K. Anderson and G. Flowers are organizing the conference in San Diego.
- *2010 IDETC/CIE*: P. Larochelle and A. Murray are organizing the conference in Downtown Montreal.
- *2011 IDETC/CIE*: N. Jalili (Clemson) is developing a proposal and will present it to the DED Executive Committee by September.
- *2012 IDETC/CIE*: M. Stanisic and J. Schmiedeler have proposed holding a conference in 2012 in Chicago.

New conference guidelines and evaluation mechanisms are being developed and will be available on the Division website. It is clear that the conference is being too big. The number of parallel tracks is big enough that there are very few potential sites. The conference simply cannot grow bigger in odd years.

8. Standing and Special Committees

a) Constitution and Bylaws (H. Lipkin)

No oral report was presented. Kazerounian announced that Linda Schmidt would be the new chair relieving Harvey Lipkin.

b) National Design Engineering Conference (Z. Mourelatos)

Since the impact of NDEC on DED is minimal, this committee will cease to exist.

c) Honors and Awards (G. Fadel)

Fadel presented written and oral reports. K. Ishii, A. Slocum, K. Waldron and K. Gupta were honored with DED Awards. There were no Da Vinci award winners. The ASME Website has up-to-date information on nominations and guidelines for awards.

d) Nominating Committee (J. Vance)

Vance will be seeking nominations for three DED Executive Committee positions:

- A six-year term for an executive who will start with the position of the Secretary for one year and rotate to other positions;
- A three-year term, renewable for an additional three years, for the position of a Honors and Awards Chair;
- A three-year term, renewable for an additional three years, for the position of a Publications Chair.

No written report was presented.

e) US Council for the Theory of Machines and Mechanisms (H. Lipkin)

No oral report was presented.

f) Government Relations (F. Tahmasebi)

Tahmasebi presented a comprehensive report on activities ranging from global warming to alternative fuels, and their potential connection to DED. This will be his last year. Irene Tumer will replace him.

g) Design Society (W. Seering)

No oral report was presented. There is an attempt to collocate IDETC and the Design Society.

h) Fellow Nominations (R. Hirsch)

Kumar presented the report. There is no real need for this committee since the responsibility for identifying and promoting viable candidates lies with the TCs. Indeed it is very difficult to DED to directly play a role in this process.

i) Publicity and Newsletter (J. Michalek)

Michalek presented written and oral reports. Michalek has established a wiki site for the newsletter. Over 20,000 copies were mailed within the U.S. and nearly 3,000 internationally. There is a substantial cost to this. It is not clear if mailing of physical copies of newsletters is the best mechanism for publicizing DED's activities. It was proposed to try both electronic and paper mailings next year and to try to measure the impact of both.

j) Student Affairs (M. Parkinson)

Parkinson presented written and oral reports. The Student Affairs committee arranged a scavenger hunt with prizes donated from industry. He pointed out that students are currently unable to attend luncheons and participate in social events. Often these offer the best networking opportunities. Kazerounian asked the Student Affairs committee for a proposal that will enable student participation.

k) Information Management (S. Gooch)

No oral report was presented.

l) Journal Relations (W. Clark)

Clark presented written and oral reports. A new Executive position has been established to help monitor and promote DED publications. He reported on the distribution of revenues from DED Journals and noted that a significant fraction of these revenues will be passed on to the TCs. The TCs need to develop plans for spending these revenues.

m) K-12 Awareness of Design Engineering K. Jacobson

No oral report was presented.

n) Professional Engineering Licensure A.V. Karvelis

No activity was reported in the written report. No oral report was presented.

8. **Old business.** No old business was discussed.

9. **New Business.** No new business was discussed.

The meeting was adjourned at 17:50pm.

Respectfully submitted,

Vijay Kumar
Secretary of the Design Engineering Division

DED Chair's Report August 30, 2009

EXECUTIVE COMMITTEE

The important changes related to the DED Executive Committee are:

1. Effective July 1, 2009, two new voting member positions were added to the DED Executive Committee. The two new members will serve as the chairs of the Publication Committee and the Honors and Awards Committee. The term of the chair of these two committees is three years.
2. Three new members were elected this year; Wei Chen (Secretary), Kurt Anderson (Publications Committee Chair), and Georges Fadel (Honors and Awards Committee Chair). I would like to welcome Wei, Kurt and Georges who have been DED active members. I would like also to thank Judy Vance, the Chair of the Nominating Committee and its members, Shapour Azarm, J. Michael McCarthy, and Chris Rahn for their service.
3. The DED Bylaws have been changed to reflect the new changes in the Executive Committee.
4. Judy Vance ended her tenure as a DED Executive Committee member. During the last year, Judy served as the DED Past Chair. I would like to thank Judy for her excellent service and contributions to the division.
5. Kazem Kazerounian will replace Judy as the Past Chair. I would like to thank Kazem for his excellent service and skilful leadership of the division.
6. Hamid Hamidzadeh will be the Vice Chair/Treasurer. Buddy Clark will continue to serve as the Technical Committee Executive and IMECE Executive for one more year. Vijay Kumar will serve as the IDETC Executive for two years. Wei will serve as the Secretary for one year.
7. DED no longer participates in the National Manufacturing Week (NMW). For this reason, the NDEC (National Design Engineering Conference) position in the DED Executive Committee was eliminated.

DED was one of only two ASME divisions that received an A grade in the 2008 performance evaluation by the Technical Community Operating Board (TCOB).

FINANCES

The DED finances are still in good shape despite the bad economic situation. The 2008 IDETC/CIE conference in New York was very successful with a profit of \$82,985.19. DED custodial account received \$31,096.24, and the DED Technical Committees received \$31,096.24 based on the number of papers.

An award matching program was approved by the DED Executive Committee. The funds were already allocated to the committee accounts. Three new awards were established. These awards and their account numbers are DAC Young Investigator Award (4-

04145061), DTM Best Paper Award (4-04145062), and MNS Innovator Award (4-04145063). More details about the DED finances are presented in Hamid's report.

TECHNICAL COMMITTEES

A new technical committee, Mechatronic and Embedded Systems and Applications (MESA) Committee, was established. The DED EC voted to provide the MESA Committee a start-up fund of \$2,000 for awards for papers and student competitions, and for the MESA Committee Award.

The list of the 13 DED active technical committees is:

- Design Automation
- Design Education
- Design for Manufacturing
- Design Theory and Methodology
- Fastening and Joining
- Mechanisms and Robotics
- Mechatronic and Embedded Systems and Application
- Micro & Nano Systems
- Multibody Systems and Nonlinear Dynamics
- Power Transmission and Gearing
- Reliability, Stress Analysis & Failure Prevention
- Vehicle Design
- Vibration and Sound

TCVS will be participating in IDETC 2010. There was a concern if the number of TCVS papers would be limited by DED. No such a limit will be imposed by DED. The DED Executive Committee approved the new Bylaws of the MNS committee, and approved the change of name of the DFM technical committee to DFMLC (Design For Manufacturing and Life Cycle).

The Executive Committee voted unanimously to approve the following new committee chairs.

- DAC: Kazuhiro Saitou, Univ of Michigan
- DTM: Li Shu, University of Toronto
- M&R: Jeffrey Ge, SUNY Stony Brook
- MNS: Arvind Raman, Purdue University
- PTG: Avinash Singh, General Motors
- MSND: Bala Balachandran, University of Maryland

Several committees do not have Bylaws and do not maintain a website. Having Bylaws and website will be an important factor in the future for DED approval of fund requests (including award matching fund). Action Item: Buddy Clark will identify the committees which do not have Bylaws or website and send a message to the chairs of these committees.

The approval of a new Award Matching Program will depend on the success of the 2009 IDETC and the market situation.

JOURNALS

The Division continues to support six journals:

- *ASME Journal of Mechanical Design*
- *ASME Journal of Vibration and Acoustics*
- *ASME Journal of Computational and Nonlinear Dynamics*
- *ASME Journal of Mechanisms and Robotics*
- *ASME Journal of Computing and Information Science in Engineering* (co-sponsored with the Computer and Information in Engineering (CIE) Division)
- *ASME Journal of Medical Devices* (co-sponsored with Bioengineering Division)

The issue of appointing the journal technical editors for a second term was revisited. DED in the last few years adopted an unwritten policy of having one term limit in order have more qualified people involved.

STANDING AND SPECIAL COMMITTEES

1. Committee on Broadening Participation of Women and Minorities: Judy Vance requested from DED to partially support a workshop for women and minorities at the 2009 IDETC. The funding is needed for refreshments and to support the travel of two facilitators to the workshop. The proposal was unanimously approved by the DED EC.
2. Journal Relations Committee: The new chair will be Kurt Anderson. The standing committee chair roster needs to be updated.
3. Newsletter: The cost of producing the newsletter last year was \$11506.34 (\$525 for design and produce a digital file for the web; and \$10,981.34 for printing). It was recommended to have only electronic copies of the newsletter in order to reduce the cost.
4. Two new special committees were recommended by Kazem. The first is the Committee on Innovation and Entrepreneurship that will monitor, support, coordinate and facilitate the Division's activities in this area. Kazem asked Prof. Jahangir Rastegar to form this committee and initiate its activities. This appointment will be for a period of three years. The second new special committee is the Committee on Enterprise Study: Kazem will provide a recommendation for qualified person to chair this committee.
5. The terms of the chairs of three Special and Standing Committees expired in June 2009. These committees are K-12 Awareness of Design Engineering (K. Jacobson); Fellow Nominations (R. Hirsch); and Professional Engineering Licensure (A.V. Karvelis).

DED REORGANIZATION

DED has a large number of active technical committees that sponsor a large number of conferences and symposia. It is becoming more difficult for the Technical Committee Executive to manage all these committees and evaluate their performances. For this reason, DED needs to establish a system that will facilitate communications between the Executive Committee and the Technical Committees. The attached proposal was prepared to establish the DED technical groups in order to facilitate such communications between the DED Executive and the DED technical committees.

The next meeting of the DED Executive Committee will be via conference call in March or April, 2010.

Respectfully submitted,

Ahmed A. Shabana
Chair, ASME Design Engineering Division 2009-2010

Technical Committee Operations and IMECE

(W. Clark)

Technical Committees Report

- **Change of the Committee Chairs:** The changes in the committee leadership this year are as follows:
 1. Design Automation Committee: Frank Liou is replaced by Kazuhiro Saitou of the University of Michigan.
 2. Design Theory and Methodology Committee: Michael Scott is replaced by Li Shu of the University of Toronto.
 3. Mechanisms and Robotics Committee: Gordon Pennock is replaced by Jahangir Rastegar of SUNY Buffalo.
 4. Micro and Nano Systems Committee: Laxman Saggere is replaced by Arvind Raman of Purdue University.
 5. Multibody Systems and Nonlinear Dynamics Committee: Kurt Anderson is replaced by Bala Balachandran of the University of Maryland.
 6. Power Transmission and Gearing Committee: Ahmet Kahraman will be replaced by Avinash Singh of General Motors.
- **Micro and Nano Systems Committee Bylaws:** The DED Executive Committee approved the new by-laws for the MNS committee.
- **Matching Funds to DEC for Awards:** The Design Education Committee was approved to receive funds of \$4,250 for a best DEC paper and for a student paper competition for the 2009 IDETC.
- **Name change for DFM:** The former Design for Manufacturing committee has changed its name to Design For Manufacturing and Life Cycle (DFMLC).
- **New Technical Committee:** A new technical committee was formed this year, the Mechatronic and Embedded Systems and Applications (MESA) Committee. The DED will provide the MESA Committee a start-up fund of \$2,000 for awards for papers and student competitions, and for the MESA Committee Award.

Submitted by

William W. Clark

August 2009

IMECE Report

2009 IMECE

- **Location:** The 2009 IMECE will be held in Lake Buena Vista, FL, from November 13-19.

- **Track Organizers:**

Track 4 Design and Manufacturing

Track Co-Organizer: Endel V Iarve, *Air Force Research Laboratory* (Fastening and Joining Committee)

Track 11 Mechanical Systems and Control

Track Organizer: Albert Luo (Technical Committee on Vibration and Sound)

Track Co-Organizer: Liming Dai, *University of Regina* (Technical Committee on Vibration and Sound)

Track 15 Processing and Engineering Applications of Novel Materials

Track Co-Organizer: Erol Sancaktar, *University of Akron* (Reliability, Stress Analysis and Failure Prevention Committee)

2010 IMECE

- **Location:** The 2010 IMECE will be held in Vancouver, British Columbia, from November 12-18.

Submitted by

William W. Clark

August 2009

ASME Design Automation Committee Report July 1, 2009

The ASME Design Automation Committee 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 2008 ASME IDETC held in New York, NY, 174 papers were submitted to the Design Automation Conference, of which 126 papers were accepted. These papers were presented in 28 technical sessions in three parallel tracks at the conference. Dr. Byeng D. Youn (University of Maryland at College Park), his graduate students, Pingfeng Wang and Zhimin Xi, and Artemis Kloess (General Motors Corporation) received the Ford Motor Company Best Paper Award for their paper entitled, “Bayesian Reliability Analysis with Evolving, Insufficient, and Subjective Data Sets” (DETC2008-49663).

Our DAC Keynote Speaker, Dr. David Gorsich (U.S. Army TARDEC), shared his experiences and discussed the condition-based maintenance (CBM) and reliability-centered maintenance (RCM) of ground vehicles. One industry panel was also held at the conference. Our Industry Liaison, Mr. Joe Donndelinger (General Motors Corporation), organized a panel of experts from industry who shared their experiences on the use of commercially available software solutions for automated design integration, analysis, and optimization in industrial settings.

We anticipate another exciting Design Automation Conference (DAC) in 2009. This year, 158 papers were submitted to the conference, and 123 papers were accepted after a rigorous peer review process. These accepted papers cover 34 topics spanning Design Automation’s four key research areas, and they will be presented in 27 technical sessions, running in three parallel tracks. Following DAC’s annual tradition, one of these outstanding papers will be selected for the Best Paper Award sponsored by the FORD Motor Company – the winner will be announced at the DED Awards Luncheon at the conference. The winner of the 2009 Design Automation Award and the newly established Design Automation Young Investigator Award will also be announced at the luncheon.

We also have an exciting Plenary Speaker planned for this year’s DAC. Dr. Stewart Coulter, General Manager, DEKA Research and Development, will share his experiences and views on fostering successful design innovation. Two panels have also been scheduled. The panel of industry experts will share their experiences on taking advantage of emerging manufacturing capabilities through innovative design - rapid manufacturing. The second panel of industry experts will discuss about virtual reality applications in industry, including success stories & future challenges.

We continue to attract many applicants to serve on the DAC Executive Committee. In 2009, Dr. Gary Wang (Simon Fraser University, British Columbia) was elected to serve on the Executive Committee as the Special Sessions Paper Chair for the 2010 ASME IDETC - Design Automation Conference. He joins Committee Chair Dr. Kazuhiro Saitou (University of Michigan), Conference Chair Dr. Zissimos P. Mourelatos (Oakland University), Program Chair Dr. Kemper

Lewis (University at Buffalo – SUNY), and Industry Liaison Mr. David Dietrich (The Boeing Company). Dr. Frank Liou (Missouri University of Science & Technology) is the Committee's Past Chair, and Dr. Horea Ilies (University of Connecticut) maintains the websites for our conference and committee <http://cdl.engr.uconn.edu/asmeda>.

Respectively submitted,

Frank Liou
Missouri University of Science and Technology
Chair, 2008-09 Design Automation Executive Committee

Kazuhiro Saitou
University of Michigan
Chair, 2009-10 Design Automation Executive Committee

DESIGN EDUCATION

Gül Kremer, DEC Chair

In comparison to other conferences under the IDETC umbrella, the Symposium on International Design and Design Education is in its infancy stage, but in a growth mode. Our participation in IDETC 2009 will mark the 6th year for us. Despite this fact, however, we report an increased interest. Last year, DEC had 23 technical papers in addition to 5 student papers featuring the best submissions to the recently revised Young Design Engineer's Paper Competition. For DEC 2009, we have received 33 submissions (an increase of 10%) for technical papers in addition to 6 Young Design Engineer's Paper Competition submissions. For DEC 2009, the Conference Chair is **Peter Jones**, and the Program Chair is **Dirk Schaefer**.

Recently, we have identified three themes to increasingly take the center stage in our conferences for their impact on design education: (1) interdisciplinary design, (2) globalization, and (3) creativity and innovation. The Sixth Symposium on International Design and Design Education will feature sessions on these topics along with sessions on best practices, service focused design and design education via distance learning.

We have several parallel efforts targeting an increased rigor in the technical paper submissions. First, as a technical committee we have proposed a "**Best DEC Paper**" award. Through this award we will recognize the author(s) for their implementation of rigorous research methods on design education and international design topics. This award proposal is currently under review at the division level. Secondly, our committee has participated in securing nominations for the **Design Education Associate Editor (AE)** for the Journal of Mechanical Design (JMD). We hope to see DEC papers to appear in JMD more frequently.

In the near future, we aim to grow our visibility under the IDETC umbrella as we believe that design education and international design (our central topics) relate to all other sister conferences. Accordingly, we hope to strengthen our collaborative efforts. If you have ideas/suggestions in this regard please contact one of the DEC officers. Our current officers are: **Gül Kremer**, Chair; **Phil Doepker**, Associate Vice Chair, and Chair of the International Activities Subcommittee; **Jeffrey Mountain**, Vice Chair; **Mike Keefe**, Secretary; and **Al Karvelis**, Treasurer.

We are seeking nominations for the Program Chair position for the 2010 conference. Those interested in learning more about opportunities within DEC are asked to contact Gül Kremer (Penn State) as gkremer@psu.edu.

To: ASME Design Engineering Division Executive Committee

From: Kazuhiro Saitou, Chair, DFMLC Technical Committee
Peter Sandborn, Vice-Chair, DFMLC Technical Committee
Marcos Esterman, Secretary, DFMLC Technical Committee

Date: August 3, 2009

Re: DFMLC Technical Committee Activities

We are pleased to submit this report to the Design Engineering Division about the activities of the Design for Manufacturing and Life Cycle Technical Committee. Our main conference is the annual Design for Manufacturing and the Life Cycle (DFMLC) conference as part of IDETC. We have always sought to keep this a single track conference, so no participants need to miss any of the other paper presentations.

DFMLC 2009 Status Report

Based on the approval at the DED Committee meeting in April, the committee name has changed to "Design for Manufacturing and the Life Cycle (DFMLC)," which matches with the associated conference name in IDETC.

We expect a successful Design for Manufacturing and the Life Cycle (DFMLC) Conference this year. Forty-one papers were submitted to the 2009 conference, and thirty-five were accepted. The paper presentations are presented in a single track over three days. This year's conference reflects our continuing success in attracting relevant research from the Americas, Europe, and Asia. These papers are both from academia and industry, with several coming from industry/academic partnerships. In the 2009 conference, we have organized a special panel session in memory of Kos Ishii, who has made a substantial contribution in the area of Design for Manufacturing and Life Cycle. Also, there were substantial submissions in the area of sustainable design, which resulted in two separate sessions in that topic. While we were optimistic that we could kick off our first panel session dedicated to Entertainment Engineering, under the guidance of John Wesner (Carnegie Mellon) and Dan Cook (University of Nevada Las Vegas), administrative issues resulted in the last minute cancellation of the panel. Our hope is to generate paper submissions in 2010 to support this area.

Marcos Esterman (Chair – Rochester Institute for Technology) and Shun Takai (Missouri University of Science and Technology) are to be congratulated for their fine organization of the 2009 conference. Shun Takai will be conference chair for the 2010 DFMLC conference.

Representation on ASME Journal Editorial Boards

The following persons are representing the DFMLC community as Associate Editors for ASME journals:

- Jeffrey W. Herrmann is an Associate Editor (Design for Manufacturing) for the *Journal of Mechanical Design* (JMD), 2006-2009.
- Satyandra K. Gupta is an Associate Editor (Computer Aided Manufacturing) for the *Journal of Computing and Information Science in Engineering* (JCISE), 2006-2009.
- Kazuhiro Saitou is an Associate Editor (Computer Aided Engineering) for the *Journal of Computing and Information Science in Engineering* (JCISE), 2009-2012.

Design Theory and Methodology Committee – Annual Report
August 3, 2009

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

DTM Conference: The 21st International Conference on Design Theory and Methodology will be held at IDETC2009 in San Diego, California. Robert Paasch of Oregon State University is the Conference Chair and Daniel McAdams of Texas A & M University is the Program Chair. The 2009 conference consists of 11 technical sessions and one panel discussion. The committee maintains the following statistics on submissions and acceptances:

Papers submitted: 97

Papers accepted: 51 (acceptance rate: %): 53%

Papers accepted with at least one author with an industry affiliation: 4

Papers accepted with at least one author from an institution outside the United States: 28

The Best Paper Award goes to “The Characteristics of Innovative, Mechanical Products” by Matthew N. Saunders, Carolyn C. Seepersad, and Katja Hölttä-Otto.

The process of selecting papers is at the heart of a successful conference. This year, an excellent group of reviewers generously offered their time and expertise and assisted with selection decisions. As always, this peer review process was successfully managed by an exceptional group of DTM Review Coordinators: Julie Linsey, Seth Orsborn, Andy Dong, John Clarkson, Qi Van Eikema Hommes, Tolga Kurtoglu, Janet Allen, Carolyn Conner Seepersad, Ryan Hutheson, Saeema Ahmad, Michael Scott, Robert Stone, Seung-Ki Moon, and Thomas Bornkessel. We greatly appreciate the time and effort these individuals contributed to maintaining the high quality of this DTM conference.

For the 22nd Annual DTM Conference in 2010, Daniel McAdams of Texas A & M University will be the Conference Chair and John Clarkson of Cambridge University will be the Program Chair. These positions were elected by the membership at the DTM committee meeting at IDETC2008 in New York City.

Officers: New officers for the committee were also elected at the committee meeting at IDETC2009. The new officers serve two-year terms beginning July 1, 2009:

Chair: L.H. Shu (U of Toronto)

Vice-chair: Janis Tepperney (Virginia Tech.)

Secretary: Dan Frey (MIT)

Webmaster: Rob Stone (OSU)

The next DTM Committee meeting will be held at IDETC2009 on Tuesday, September 1, 2009 from 6-8 pm. All are welcome to participate.

Respectfully submitted,

L.H. Shu

Chair of the Design Theory and Methodology Subcommittee

Report

2009

Fastening and Joining Committee

Design Engineering Division, ASME

The Fastening and Joining Technical Committee of Design Engineering Division serves ASME members 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, nano technology and innovations in adhesive bonding, dynamic behavior and long term durability of joined structures, nondestructive evaluation and characterization, industrial applications and case studies as well as many others. The committee sponsors symposiums with a specific theme at the annual International Mechanical Engineering Congress and Exposition. The theme for the 2009 IMECE in Lake Buena Vista, Florida is “Joining Technologies for Advanced Materials and Structures” The organizers for this symposium are Dr. Endel V. Iarve, Dr. Thomas J. Whitney of The University of Dayton Research Institute, Dayton OH and Dr. Timothy Breitzman, Air Force Research Laboratory, WPAFB OH. The committee currently has about 12 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: Dr. Endel Iarve, University of Dayton Research Institute, Dayton OH 45469-0060, phone (937) 255-9094; fax (937) 258-8075; e-mail: endel.iarve@wpafb.af.mil

Endel V. Iarve

Mechanisms and Robotics Committee

Jahangir Rastegar and Gordon R. Pennock, present and past Chairs

The Mechanisms and Robotics Committee has the mission of promoting advances in research and education in the theory, design and applications of mechanisms, machines, robots and mechatronics systems. Areas of interest include: kinematics and dynamics of mechanisms, analysis of robotic systems, design of cams, gears, transmissions, and linkages, bio-inspired machines, mechatronics, compliant mechanisms, and micro and nano machines. Our flagship conference is the Mechanism and Robotics Conference, which is the largest conference in the ASME International Design Engineering Technical Conferences (IDETC). Our main journal for this committee is the Journal of Mechanisms and Robotics (in recent years, it was the Journal of Mechanical Design).

This past year 2008-2009 was another very active year for the Mechanisms and Robotics Committee. A summary of the main highlights follow:

- The committee was responsible for the oversight and organization of the 2008 Mechanisms and Robotics Conference in New York which consisted of keynote presentations, symposiums featuring technical papers, and student design competitions.
- The committee recognized Dr. Clement Gosselin, Director of the Robotics Laboratory at Laval University, Canada, with the DED Mechanisms and Robotics Committee Award for *cumulative contributions to the field of mechanism design and theory*.
- The committee has worked diligently on establishing a new journal focusing on its central mission. The new journal is entitled *The ASME [Journal of Mechanisms and Robotics](#)*, with Dr. [Mike McCarthy](#), University of California, Irvine, as the founding editor. The first volume of the journal appeared in February of this year.
- The committee worked on a [new website](#) that reflects the breadth of our activities and the excitement in our community.
- The committee have established a [ASME Mechanisms & Robotics Video Web-Portal](#). Submissions to this YouTube channel can be made through [Video sub-committee website](#).
- The committee are in the process of establishing a wiki site and this should be completed by the end of March or early April.
- The address for the wiki site is <http://alliance.seas.upenn.edu/~asmemr/cgi-bin/pmwiki/index.php?n=Main.HomePage>
- The honors and awards subcommittee are reviewing the current list of awards offered by the Mechanisms and Robotics Committee with the view to introducing an award to encourage paper submissions in emerging technologies.

During the 2008-2009 reporting period, the Mechanisms and Robotics Committee was also responsible for the oversight and organization of the 2009 Mechanisms and Robotics Conference of the 2009 Design Engineering Technical Conferences & Computers and Information in Engineering Conference in San Diego. In the 2009 Mechanisms and Robotics Conference, Pierre Larochelle serves as the Conference Chair

and Drew Murray serves as the Program Chair. Some highlights of the conference include:

- The 2009 Mechanisms and Robotics Conference in San Diego will consist of keynote presentations, symposiums featuring technical papers, and undergraduate and graduate student design competitions. The Conference is intended to offer a forum for those in academia, industry, and government to share their ideas in the important fields of mechanisms and robotics.
- The Conference program includes 137 technical papers from 165 submissions. The Conference also includes a keynote speech, which will be given by Dr. François Pierrot. Dr. Pierrot is a Director of Research for the Centre National de la Recherche Scientifique and a Deputy Director of the Laboratoire d'Informatique de Robotique et de Microélectronique in Montpellier, France.
- The program is divided into eight symposia:
 - o Mechanism Analysis and Synthesis
 - o Robot Kinematics and Motion Planning
 - o Robot Dynamics and Control
 - o Theoretical and Computational Kinematics
 - o Machine Dynamics, Vibration and Control
 - o Compliant Mechanisms
 - o Cable Driven Mechanisms & Robots, Tensegrity Systems
 - o Novel Mechanisms, Robots and their Applications

The Mechanisms and Robotics Committee meeting will be held during the 2009 IDETC on Tuesday (September 1, 2009) evening at 7pm.

Mechatronic and Embedded Systems and Applications (MESA)

Technical Committee

<http://iel.ucdavis.edu/mesa>

Annual Report 2009

1. Committee Leadership

Harry H. Cheng, hhcheng@ucdavis.edu

1.1. Officers and Executive Members of the MESA Committee:

Chair

Harry H. Cheng
Department of Mechanical and Aeronautical Engineering
Computer Science Graduate Group
Electrical and Computer Engineering Graduate Group
University of California
One Shields Avenue
Davis, CA 95616
Phone: (530)752-5020
Fax: (530)752-4158
Email: hhcheng@ucdavis.edu

Vice-Chair

YangQuan Chen
Department of Electrical and Computer
Engineering
Utah State University
4120 Old Main Hill
Logan, UT 84322-4120
Phone: (435)797-0148
Fax: (435)797-3054
Email: yqchen@ece.usu.edu

Treasurer

Primo Zingaretti
Università Politecnica delle Marche, Facoltà di Ingegneria
Dipartimento di Ingegneria Informatica, Gestionale e
dell'Automazione
D.I.I.G.A., via brecce bianche, 60131 Ancona Italy
Phone: +39 071 220 4899,
Fax: +39 071 220 4474
E-mail: zinga@diiga.univpm.it

Secretary

Martin Horauer
Department of Embedded Systems
University of Applied Sciences Technikum Wien
Hoechsttaedtplatz 5, A-1200 Vienna, Austria
Phone: +43 1 333 40 77 292,
Fax: +43 1 333 40 77 268
E-mail: horauer@technikum-wien.at

Member

Bo Chen
Department of Mechanical Engineering - Engineering
Mechanics and
Department of Electrical and Computer Engineering
Michigan Technological University
815 R.L. Smith Building
1400 Townsend Drive
Houghton, MI 49931
Phone: (906)487-3537
Fax: (906)487-2822
E-mail: bochen@mtu.edu

1.2. Chair of the Advisory Committee

Feiyue Wang, University of Arizona and Chinese Academy of Sciences

1.3. Members of the Advisory Committee

Jorge Angeles, McGill University, Canada

David M. Auslander, Univ. of California, Berkeley, USA

Kevin C. Craig, Rensselaer Polytechnic Institute, USA

Krishna C. Gupta, Univ. of Illinois at Chicago, USA

C.S. George Lee, Purdue University, USA

Ren C. Luo, National Chung Cheng University, China

Bahram Ravani, Univ. of California, Davis, USA

T. J. Tarn, Washington University, USA

Masayoshi Tomizuka, U. of California, Berkeley, USA

Feiyue Wang, Chinese Academy of Sciences and Univ. of Arizona, USA

1.4. Chairs of the MESA Subcommittees

Chair of the Honors and Awards Subcommittee

Zuomin Dong, University of Victoria

Chair of the Education Subcommittee

Lili Ma, Wentworth Institute of Technology, USA

Chair of the Industrial Liaison Subcommittee

Martin Hosek, Brooks Automation

1.5. Chairs of the MESA Symposia

Chair of Autonomous Systems and Ambient Intelligence:

Hyo-Sung Ahn, Gwangju Institute of Science & Tech., Korea

Chair of Bio-Mechatronics and Bio-Sensors

Lei Zuo, SUNY Stonybrook, USA

Co-Chairs of Cyber-Physical Systems

YangQuan Chen, Utah State Univ., USA

Xiaoqi Chen, University of Canterbury, New Zealand

Chair of Electrohydraulic Control Systems

Sabri Cetinkunt, University of Illinois at Chicago, USA

Chair of Embedded Softcomputing

Riccardo Caponetto, University of Catania, Italy

Chair of Embedded System Infrastructure and Theory

Martin Horauer, Univ. of Applied Sciences Technikum Wien, Austria

Chair of Industrial Applications of Mechatronic & Embedded Systems

Martin Hosek, Brooks Automation

Chair of Learning Control and Diagnosis in Mechatronic Systems

Wen Chen, Wayne State University, USA

Chair of Mechatronics Control and Electrical Vehicles

Chengbin Ma, UM-SJTU Joint Institute, Shanghai Jiaotong Univ.

Chair of Mechatronic and Embedded System Applications

Primo Zingaretti, Polytechnic University of Marche, Italy

Chair of Mechatronic and Embedded Systems in Education

Lili Ma, Wentworth Institute of Technology, USA

Chair of Sensors and MEMS

Ja Choon Koo, Sungkyunkwan University, Korea

Chair of Sensor Networks

Bo Chen, Michigan Technological University, USA

Chair of Robotics and Mobile Machines

Xianwen Kong, Heriot-Watt University, UK

Co-Chairs of Small Unmanned Aerial Vehicle Technologies & Applications

YangQuan Chen, Utah State University, USA

Holger Voos, Hochschule Ravensburg-Weingarten, Germany

2. Technical Conferences

The MESA technical committee organizes the annual International Conference on Mechatronic and Embedded Systems and Applications (MESA) co-sponsored by:

- ASME Division of Design Engineering (DED)
- IEEE Intelligent Transportation Systems Society (IEEE ITSS)
- IEEE Control Systems Society (IEEE CSS)

In odd numbered years, the MESA Committee sponsors the ASME/IEEE International Conference on Mechatronic and Embedded Systems and Applications (ASME/IEEE MESA) held within the ASME International Design Engineering Technical Conferences / Computers and Information in Engineering Conferences (IDETC/CIE) mainly organized by the ASME. IEEE is the non-financial cosponsor of the ASME/IEEE MESA Conference.

In even numbered years, the MESA Committee cosponsors the IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (IEEE/ASME MESA) mainly organized by the IEEE. ASME is the non-financial cosponsor of the IEEE/ASME MESA Conference.

At the conference the MESA committee awards the MESA Achievement Award. The selection of an individual to receive this award will be made on the following basis. The Award is given for a cumulative contribution to the field of Mechatronic and Embedded Systems and Applications.

At the conference the MESA committee awards best papers in the categories:

- Best Paper in Theory
- Best Paper in Computational Methods and Software
- Best Paper in Applications
- Best Student Papers

In 2009 MESA09 is held within the ASME 2009 IDETC/CIE in San Diego, California.
<http://iel.ucdavis.edu/mesa/MESA09>.

A total of 121 abstracts and 101 draft papers have been submitted, with 86 accepted for publication in the Proceedings. The conference is organized into 14 symposia.

3. Major Activities of the Technical Committee

The Mechatronic and Embedded Systems and Applications (MESA) Technical Committee established new bylaws and set-up web-pages: <http://iel.ucdavis.edu/mesa>.

The committee organized the 2009 ASME/IEEE International Conference on Mechatronic and Embedded Systems and Applications (MESA09) in San Diego, California.

Conference Chair: Harry H. Cheng, University of California

Program Chair: YangQuan Chen, Utah State University

4. Journals Sponsored by the Technical Committee

The MESA committee sponsors the following ASME journals with representatives to serve as Associate Editors for these journals:

- ASME Journal of Mechanisms and Robotics
- ASME Journal of Dynamic Systems, Measurement, and Control

Our nominated representative has been approved to serve as an associate editor for ASME Journal of Dynamic Systems, Measurement, and Control. The nomination and selection process of associate editor for ASME Journal of Mechanisms and Robotics from the MESA Technical Committee is in progress.

5. New Directions and Planned Changes for 2010

In 2010, the committee will organize the 2010 IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications in Qingdao, China.

Conference Chair: YangQuan Chen, Utah State University

Program Chair: Primo Zingaretti, Università Politecnica delle Marche

The committee will try to establish closer collaboration with the IEEE Intelligent Transportation Systems Society.

In this regard, the MESA committee will nominate Associate Editors for the

- IEEE Transactions on Intelligent Transportation Systems

MESA Technical Committee will technically co-sponsor some other conferences in the future.

To: The ASME Design Engineering Division (DED) General Committee

From: Arvind Raman, Chair, Micro- and Nanosystems Committee

Date: July 29, 2008

Subject: MNS committee report for the period August 2008-July 2009

1. Background on the committee

The mission of the Micro- and Nanosystems (MNS) Committee is to promote research and development activities related to advancement of microsystems and nanotechnology within the broad scope of the design engineering field.

The committee is currently comprised of twenty elected members including three officers: the Chair, the Vice Chair and treasurer, and the secretary. The committee held its third meeting on Aug 5, 2008 in Brooklyn, NY at the IDETC 2008. The committee operates according to a set of by-laws, which was formally adopted in October 2006. Some revisions to the current by-laws were approved by email votes in February 2009. The major changes relate to the term period start/end dates and the MNS officers' responsibilities and rotation. Several members have rotated out and several new members have joined. The interest in the committee and its activities is growing as evidenced by the solid conference response and good attendance at its annual meetings. In March 2009, based on email votes, the committee moved to appoint Arvind Raman, Gloria Wiens, and Ed Berger as chair, vice-chair, and secretary respectively effective June 2009. Gloria Wiens and Ed Berger also serve as the General and program chair for the third MNS conference. The committee meets annually at the IDETC meetings and conducts teleconferences at last once a year. In the following a brief summary of the achievements of the MNS committee is provided.

2. Key accomplishments

2.1 Establishment of the “Micro- and Nano systems (MNS) Innovator Award”

The Micro/Nano-Scale Systems (MNS) Technical Committee has established a division/committee level award called the “Micro- and Nano Systems (MNS) Innovator Award” that will be presented at the MNS conference to an individual for a major innovative contribution to the micro/nano systems engineering. The award recipient will be selected through a rigorous process of seeking nominations (along with nominee's CV and letters of support) from the MNS community and a full committee vote. The award will comprise a plaque and \$500 cash award. This was approved by vote following email discussions within the committee in December 2008.

2.2 2nd international conference in micro- and nanosystems (2008)

The conference and program chairs were Arvind Raman and Gloria Wiens respectively. This conference featured 58 peer reviewed papers in 12 oral sessions and one poster session. The keynote speaker was Professor Albert P. Pisano of the University of California, Berkeley, who spoke of new approaches to nanomanufacturing using bio-inspired materials. A panel session on the “present and past of nanomanufacturing” was moderated by Dr. Kevin Lyons of NIST, and included Dr. Alex Widdle (NIST) and Prof S. V. Sreenivasan (University of Texas). The best paper award was won by the groups of

D. G Cole (Univ. of Pittsburgh) and Rob Clark (Duke University) who presented a paper on a novel approach to nanoscale data storage using optical holography.

2.3 3rd micro and nanosystems conference (2009)

This conference follows the successful first two years at the IDETC'07 (Las Vegas) and IDETC'08 (New York). Gloria Wiens and Ed Berger are the conference and program chairs respectively. This year 59 papers have been accepted for technical presentation. The accepted papers have been grouped

under 7 single-track and 5 parallel-track sessions (total of 17 sessions) with specific themes, with a

special 'rapid-fire' poster session as well. The spectrum of themes covers application areas in measurement/instrumentation, optics to fluidics, bioMEMS, bio-nanotribology in medical applications, and micro/nano robotics.

This year, MNS will host a keynote address on Monday morning, and a split-panel session Wednesday morning. We are honored to have Doctor Chih-Ming Ho, the Ben Rich-Lockheed Martin Chair Professor and Director of Center for Cell Control from UCLA School of Engineering presenting the keynote lecture on "Micro-Transducers, Fluidic Systems and Control of Complex System". The split-panel session has been organized to have a panel on the emerging topics in nanomanufacturing followed by an invited presentation by Dr. Oliver Astley of GE Global Research Center giving an industrial perspective on microsystems R&D. The annual MNS dinner will be jointly held with the Design Engineering Division on Tuesday at which time the 'MNS Best Paper' Award recipients will be announced and certificates of appreciation given to our new symposium organizers.

In addition to the traditional technical presentation format, the late Tuesday afternoon session is a continuation of last year's well received 'rapid-fire' poster session. This year ~10 to 12 authors will be given a second opportunity to highlight their paper's contributions and engage in dialogue at their posters with other MNS Conference participants. This special session will have the setting of a food-drink reception with an atmosphere for networking!

A NEW event this year is the MEMS/NEMS Photography – Contest. This contest has been organized to provide a forum to display really interesting photos of novel creations. We kick-off this year's event with seven entries which will be on display in the main MNS single-track session room with the opportunity for MNS Conference attendees to vote on who has the best photography. We will announce the winners at the close of Tuesday's 'rapid-fire' poster session.

The MNS Committee Meeting (open to all MNS Participants) will immediately follow the 'rapid-fire' poster session where a report on recent, current and future activities will be discussed. This meeting provides a great opportunity for one wanting to get directly involved in forming the future of the MNS community.

5. Future activities

The MNS committee plans to build upon and expand on the success of the MNS conferences and will continue to hold it each year with the IDETC. The MNS conference chairs for the next two years

have already been identified. The committee will focus on the following aspects in the coming year: (a) expansion of industry involvement, (b) the possibility of inviting the stronger papers in the conference for dedicated issues in ASME journals, and (c) inviting and involving program managers to the conference.

**Report on the
TECHNICAL COMMITTEE ON MULTIBODY SYSTEMS AND
NONLINEAR DYNAMICS (MSND-TC)
July 15, 2009**

Mission:

The mission of the *Technical Committee on Multibody Systems and Nonlinear Dynamics (MSND-TC)* 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 the main activities of the committee is to organize the Biennial *International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC)* as one of the Design Engineering Technical Conferences.

Prior Activities:

The Technical Committee on Multibody Systems and Nonlinear Dynamics had its last meeting in Blacksburg, Virginia on Tuesday, June 3, 2008, from 5:00-7:00 PM in the Duck Pond Room of the Skelton Conference Center at Virginia Tech. During this meeting, the members of the committee discussed the preparation for and the proposed symposia of the *Seventh International Conference on Multibody Systems, Nonlinear Dynamics and Control (MSNDC2007)*, which was to be organized as a part of the 2009 ASME Design Engineering Technical Conferences to be held in San Diego, California. These discussions included debate on the rules for a planned student paper competition/awards at this MSNDC 2009 conference.

7th International Conference on Multibody Systems, Nonlinear Dynamics, and Control:

With regard to MSNDC2009, we would like to thank all of the session organizers, reviewers, and authors for what promises to be a very informative conference. We would especially like to thank Professor Olivier Bauchau MSNDC2009 Program Chair, for all he has done. The MSNDC2009 conference consists of 22 different symposia, and it has received 254 submissions of which 235 (and 4 non published presentations) papers were accepted. This represents ~19% of the 1221 total presentations for the entire IDETC/CIE 2009, making the MSNDC2009 the largest contributing conference in the IDETC/CIE 2009. Many of the high quality papers are expected to be considered for publication in the *ASME Journal of Computational and Nonlinear Dynamics*, which is doing well. Detailed statistics regarding the *ASME Journal of Computational and Nonlinear Dynamics* have been compiled by the Technical Editor, Professor Subhash Sinha, and they will be discussed separately.

The MSNDC2009 will also feature the presentation of the Multibody Systems and Nonlinear Dynamics Technical Committee's *D'Alembert Award* and *Lyapunov Award*. During the MSNDC2009 conference, Professor Philip Holmes of Princeton will be receiving the Lyapunov Award, while Professor Edward Haug of the University of Iowa will receive the D'Alembert Award. Professors Haug and Holmes will respectively give the Plenary *D'Alembert* and *Lyapunov Lectures* at the IDETC/CIE 2009.

8th International Conference on Multibody Systems, Nonlinear Dynamics, and Control:

Professor Bala Balachandran is to chair the MSNDC2011 conference, and Professor Harry Dankowicz is to act as the MSNDC2011 Program Chair.

The next meeting of the committee is scheduled to be held at the IDETC/CIE 2009 in San Diego, California, on September 1, 2009. At that time, the report is to be presented in San Diego, new MSND-TC officers will be in place (each with terms from July 1, 2009 through June 30, 2011). Information on the new officers follows:

MSND-TC Chair

Professor Balakumar Balachandran
Dept. of Mechanical Engineering
University of Maryland
College Park, MD 20742-3035
PH: (301) 405-5309
FAX: (301) 314-9477
Email: balab@umd.edu

MSNDC-TC Vice-Chair and Treasurer

Professor Olivier Bauchau
School of Aerospace Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0150
PH: (404) 894-0042
FAX: (404) 894-2760
Email: Olivier.Bauchau@ae.gatech.edu

MSND-TC Secretary

Professor Harry Dankowicz
Department of Mechanical Science and Engineering
University of Illinois at Urbana-Champaign
332C Mechanical Engineering Bldg, MC 244
1206 West Green Street
Urbana, IL 61801
PH: (217) 244-1231
FAX: (217) 244-6534
Email: danko@uiuc.edu

Prepared by

Kurt S. Anderson
Outgoing Chair, ASME MSND-TC
July 15, 2009

Committee Report

Power Transmission and Gearing Technical Committee

Committee Leadership:

Chair: Ahmet Kahraman, Ph.D., The Ohio State University, kahraman.1@osu.edu (2005-2009)

Vice Chair: Avinash Singh, Ph.D., General Motors, avinash.singh@gm.com (2009-2013)

Technical Conferences:

IDETC 2009, Power Transmission and Gearing Conference

Conference Chair: Ahmet Kahraman

Technical Program Chair: Avinash Singh

IDETC 2011, International Power Transmission and Gearing Conference

Conference Chair: Avinash Singh

Major activities of the PTG technical committee during the past year:

The PTG Committee organized the ASME Power Transmission and Gearing Conference as part of IDETC 2009. The committee organizes a larger-scale international conference every four years and a smaller mostly domestic conference in between. A total of 48 papers have been received for this smaller PTG conference on topics such as design, dynamics, durability, manufacturing and tribology of gears and power transmission systems, and 35 papers have been accepted for presentation in San Diego.

The PTG Committee met several times within the last year to review and update the by-laws of the Committee that was in effect since early 1990s. The updated PTG by-laws have been posted on its newly designed website at <http://www.asmeptg.org/>

New directions and planned changes for the coming year:

According to the by-laws of the PTG Committee, the current Vice Chair, Avinash Singh, will assume the duties as the new chair following IDETC 2009 for a four-year term. The committee will solicit nominations for a new Vice Chair and vote on it in early October. Several proposed changes will also be discussed in the October meeting including a change to the current by-laws to reduce the terms of the Chair and the Vice Chair from four years to two.

Ahmet Kahraman, PTG Committee Chair

Vehicle Design Committee Report Design Engineering Division

Activity Report (July 26, 2009)

Prepared by:

Brian Gilmore, Ph.D.

Chair, Vehicle Design Committee

Deere & Company

Moline, IL

Corina Sandu, Ph.D.

Conference Chair, Advanced Vehicle and Tire Technology

Professor, Dept of mechanical Engineering

Virginia Polytechnic Institute and State University

The Vehicle Design Committee (VDC) is enthused about the upcoming Advanced Vehicle and Tire Technologies (AVTT) conference to be held at the 2009 ASME IDETC in San Diego, Ca. The 2009 conference chair is Dr. Corina Sandu with Program Co-Chairs Dr. Mohammad H. Elahinia and Dr. Ming Cao. Drs. Sandu, Elahinia and Cao are commended for their notable efforts. The session chairs and vice chairs have been extremely diligent to solicit, review and process for presentation at the conference the papers and are recognized for their significant contributions. The paper authors are also to be commended, for the excellent contributions and advancements in advanced vehicle and tire technologies. The committee is presenting 5 Symposia (6 sessions) with 33 papers. These papers represent the latest advancements in innovative analytical, computational, and experimental investigations in control, dynamics, and design of full vehicle systems and their subassemblies. The sessions will have presentation about fundamental research, applied research, and successful technology implementations for light and heavy vehicle design, modeling, and validation. The technologies presented at this conference hold much promise that they will lead to significant innovations. Those who are interested in participating in the technical committee are invited to attend the committee meeting at the conference where the 2010 conference will be planned.

The current active members are:

Professor Massimiliano Gobbi, Politecnico di Milano

Professor Farid Amirouche, University of Illinois-Chicago

Dr. Michael Kokkolaras, University of Michigan

Professor Imtiaz Haque, Clemson University

Dr. Scott Kimbrough, Motion Research Inc.

Dr. David Gunter, U.S. Army Tank Research Center

Mr. Mike Letherwood, U.S. Army TRC I

Dr. Brian Gilmore, John Deere Corp.

Professor Ion Stihary, Concordia University
 Professor J.Y. Wong, Carleton University
 Professor Mehdi Ahmadian, Virginia Tech
 Dr. Gary Heydinger, NHTSA
 Dr. Ming Cao, United Technologies Research Center
 Dr. Joel Anstrom, Penn State University
 Mr. Hillegass, Matthew
 Dr. Xubin Song, Eton Corp
 Dr. Shung H. (Sue) Sung, General Motors Corporation
 Dr. Paul Lomangino (P.F.) (Ford)
 Dr Goldman Robert, US Navy
 Professor Corina Sandu, Virginia Tech
 Dr. Xiaobo Yang, Daimlerchrysler
 Dr. Trivedi Mukesh, Volvo 3P
 Mr. Wayne Evenson, TITAN Corp
 Mr. Scaglione Mario, US Navy
 Mr. Donald Nefske, GM
 Dr. Yin-ping \ (Daniel) Chang, Oakland University
 Professor Ebrahim Esmailzadeh, University of Ontario
 Mr. Alan Mayton, NIOSH, Pittsburgh Research Lab
 Dr. Taehyun Skim, University of Michigan
 Dr. Yuksel Gur, FORD
 Dr. Shung H. (Sue) Sung, GM
 Professor Jacob Tsao (San Jose State University)
 Professor Rajesh Rajamani (University of Minnesota)
 Professor Mohammad H. Elahinia, University of Toledo
 Dr. Beshah Ayalew, Clemson University
 Matthew Hillegass
 Nilabh Srivastava

The Vehicle Design Committee has organized the 11th International Conference on "Advanced Vehicle and Tire Technologies", 2009 ASME International Design Engineering Technical Conference (IDETC) Aug. 30-Sept 2, 2009,

AVTT-1-1: Advances in Vehicle Design Tools to Enhance Safety, Health, and Ergonomics

This session provides a technical platform on development of various vehicle design tools and related topics to enhance vehicle dynamic safety and driver/passenger ergonomics.

AVTT-2-1: Advances in Non-Conventional, Energy Efficient and Environmentally Friendly Vehicles

This session emphasizes but is not limited to the design, analysis and optimization of hybrid vehicles (including hybrid hydraulic and electric vehicles) and fuel cell vehicles (FCVs).

AVTT-3-1: Advanced Vehicle Suspension Controls

This session focuses on the recent developments of vehicle suspension system controls, which has four presentations from both academia and industry.

AVTT-4-1: Advances in Multibody Systems Modeling and Validation for Vehicle Dynamics Applications

Topics will include advanced multibody systems modeling methods and algorithms that enable a more efficient, accurate, and improved vehicle mobility and dynamic performance prediction, experimental evaluation and model validation tests.

AVTT-5-1: Advances in methods for vehicle Systems Design and Control-1**AVTT-5-2: Advances in methods for vehicle Systems Design and Control-2**

Topics include optimal, reliable, and robust design of vehicles and their systems and subsystems, design of integrated (mechatronics) systems, and engineering applications referring to vehicle design.

2009 Committee Meeting

The next Vehicle Design Committee meeting will start at 6:00 pm, September 1, 2009 in San Diego, Ca,. Agenda topics for the committee will include the sessions for 2010, recruitment for increased participation and the potential for publications in a peer reviewed journal.

Technical Committee on Vibration and Sound

Design Engineering Division

The American Society of Mechanical Engineers

<http://divisions.asme.org/ded/tcvs/tcvs%20pages/Home.html>

TO: DED Executive Committee

FROM: Christopher D. Rahn, TCVS Chair (cdrahn@psu.edu)

SUBJECT: Summary of TCVS activities during September 2007 to September 2008

DATE: July 27, 2009

- **Elections:** At our last meeting at UIC in Chicago, the committee voted to keep current members Douglas Adams, Xiaoling He, Brian Mann and Steven Shaw for a second term. New member Marco Amabili was also elected.
- **TCVS Treasurer's Report:** The Den Hartog award account has a balance of just over \$45K. This is higher than the required \$40K endowment for a Society award. TCVS has requested that DED initiate the process of elevating the Den Hartog Award to the Society level. It is our understanding, however, that the awardee selection process will remain within the committee. The Myklestad award account has a balance of around \$28K. The general TCVS fund has a balance of \$16K.
- **SMASIS 2008:** Chris Rahn co-organized the Symposium on Nonlinear Dynamics and Adaptive/Passive Control at the new Smart Materials, Adaptive Structures, and Intelligent Systems (SMASIS) Conference in Ellicott City, MD Oct. 28-30. This symposium is sponsored by TCVS, had over 40 accepted papers, and had several TCVS members on the organizing committee (Jalili, Mann, and Tang).
- **IMECE 2008:** TCVS members helped organize the following tracks at IMECE 2008:
 - Mechanical Systems and Control (Luo).
 - Biomedical and Biotechnology Engineering (Al-Jumaily, Caruntu, and Epureanu).
- **IDETC 2009:** Former TCVS Chair, George Flowers and current TCVS member Dane Quinn are general co-chair and program co-chair for this conference, respectively. The vibration conference has over 200 papers submitted. TCVS is implementing a student paper award competition for the first time, coordinated by Bogdan Epureanu.
- **IDETC 2010:** Dane Quinn will be conference chair for the Special Conference on Mechanical Vibration and Noise to be held at IDETC in 2010. This will be a limited, first time trial for TCVS at an even year IDETC. At our Fall 2009 meeting, we will be voting on whether we will initiate an annual vibrations conference. The options are to (i) Continue to use IMECE as our primary focus in the even years, (ii) Initiate an even year conference at SMASIS, and (iii) Initiate to an even year conference at IDETC.

- **IDETC 2011:** TCVS member Nader Jalili is the general conference chair. The technical Program co-chairs are Olivier Bauchau (Georgia Tech) and Bogdan Epureanu (University of Michigan). The Advisory Committee includes George Flowers, HS Tzou, Hamid Hamidzadeh, Ahmed Shabana, and Subhash Sinha. ASME is finalizing the dates and site of the conference.
- **TCVS Webpage:** The TCVS webpages have migrated to the ASME server. They will be maintained by the TCVS secretary.
- **Journal of Vibration and Acoustics:** Technical Editor Kon-Well Wang is completing his first term and has provided a list of nominees for his replacement. TCVS has reviewed and approved the three nominees.
- **Interactions:** The TCVS interacts with a number of other committees and divisions, with liaisons to *Noise Control and Acoustics Division* (Hambric), *Applied Mechanics Division – Dynamic Systems and Structures Committee* (Luo), *Applied Mechanics Review* (Tan), *Aerospace Division – Adaptive Structures Committee* (Wang), and *Dynamic Systems and Control Division* (Jalili). Within the *Design Engineering Division*, TCVS has liaisons with the *Power Transmission and Gearing Committee* (Parker), *International Activities Committee* (Liao), *Micro and Nano Systems Committee* (Mann), and *Multibody and Nonlinear Systems Committee* (Shukla).

Liaison Reports Journals



JMD ANNUAL REPORT

TO DESIGN ENGINEERING DIVISION EXECUTIVE COMMITTEE

Prepared by Panos Y. Papalambros, Technical Editor

July 22, 2009

1. Overview

The journal maintains its solid reputation and publication record. The editorial transition that started January 1, 2008, has been completed with the publication of JMR. There is good coordination between the respective editors and the community is well served. The JMD TE and AEs continue to focus on the evolution of JMD over the next several years, its interaction with all TCs of DED, so that it meets the needs and expectations of the various DED communities.

An evolved definition of the JMD purpose and scope has been developed as follows:

The ASME Journal of Mechanical Design (JMD) serves the broad design community as the venue for scholarly, archival research in all aspects of the design activity. JMD has traditionally served the ASME Design Engineering Division and its technical committees, but it welcomes contributions from all areas of design with emphasis on synthesis. Example topics include:

- *Design automation, including design representation, virtual reality, geometric design, design evaluation, design optimization, risk and reliability-based optimization, design sensitivity analysis, system design integration, ergonomic and aesthetic considerations, and design for market systems*
- *Design of direct contact systems, including cams, gears and power transmission systems*
- *Design education*
- *Design of energy, fluid, and power handling systems*
- *Design innovation and devices, including design of smart products and materials*
- *Design for manufacturing and the life cycle, including design for the environment, DFX, and sustainable design*
- *Design of mechanisms and robotic systems, including design of macro-, micro- and nano-scaled mechanical systems, machine component, and machine system design*
- *Design theory and methodology, including creativity in design, decision analysis, design cognition, and design synthesis.*

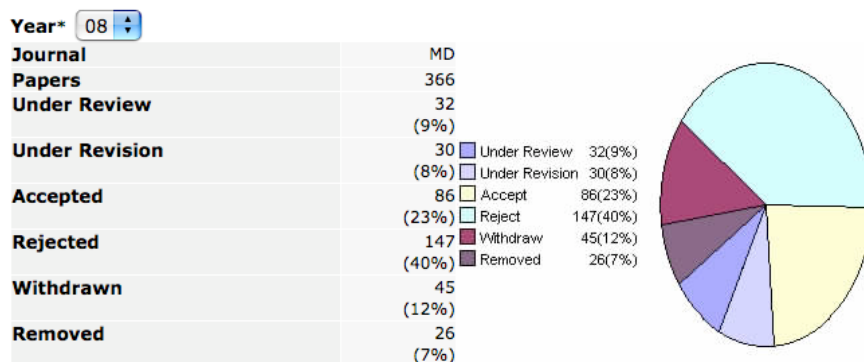
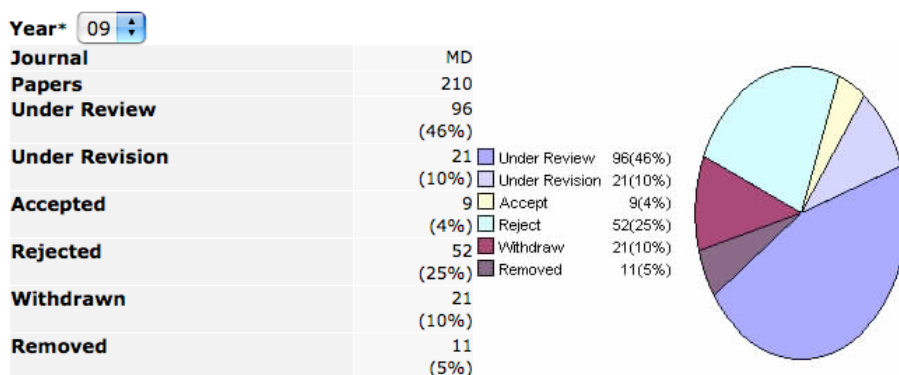
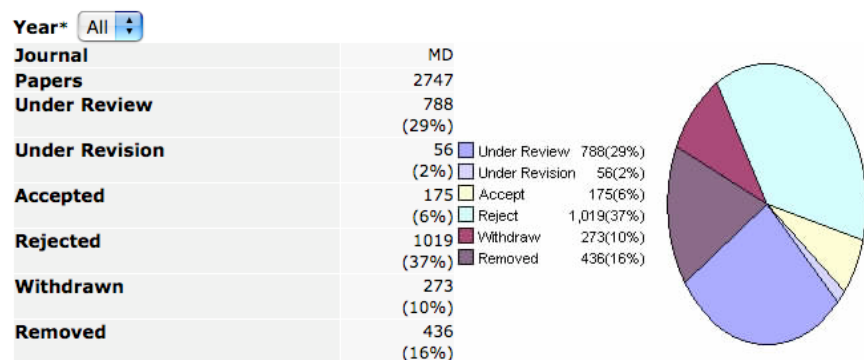
The connecting thread among all these topics is the emphasis on design, rather than just analysis. Design scholarship is based on careful analysis models, whether physical, computational, or behavioral, and has design intent: creating something in the physical world we live in, rather than just analyzing what is happening in it.

2. Journal Statistics

For years 2008 and 2009 (July) Journal statistics are shown in Figures 1 and 2, respectively. Cumulative data for the years included in the online Journal Tool are shown in Figure 3. Review process data are shown in Table 1.

Table 1. Review process data

Year	Average Days			Average Months	
	Assigned to AE	TE Decision	TE Approval	Draft to TE Decision	Draft to TE Approval
2008	8	5	8	4.786	6.971
2009 (July)	7	5	1	1.210	0.252
All Years	13	3	13	5.423	8.036

**Figure 1. JMD statistics for 2008****Figure 2. JMD statistics for 2009 (Jan-July)****Figure 3. JMD cumulative statistics for 2002-2008**

The production schedule for 2008 and 2009 is monthly with 1400 pages allocated. A special issue with 11 papers will appear for September 2009 on Design of Smart Materials and Systems with Mary Frecker (Penn State) and Nancy Johnson (GM R&D) as guest editors. This area is targeted for growth in the journal and more papers have been submitted already as a result of generating the special issue.

Production backlog as of July 22, 2009 is as follows.

Final Manuscript:

Submitted Awaiting Editor Approval (Current Count: 7)

Approved Awaiting 1903 Form (Current Count: 0)

Approved Ready for Composition (Current Count: 0)

Approved Staff Downloaded MS Files (Current Count: 0)

Staff Verified (Current Count: 160)

Files in Production (Current Count: 0)

Issue assignments for 2009 and forecasting for upcoming issues is shown in Table 2

Table 2. Issue assignments and forecasting (2009)

Year	Papers + Technical Briefs												
2008	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
	15+1	8+1	11+1	7+1	12+2	8+0	13+3	10+5	11+0	16+1 est	8+2 est.	8+2 est.	146 est

3. Status of Associate Editors

List of AEs and their status is shown in Table 3.

Table 3. Associate editor list and status (Masthead list July 2009)

Design Automation	Design of Mechanisms and Robotic Systems
D. GORSICH (2012)	T.R. CHASE (2011)
M. KOKKOLARAS (2012)	A. GHOSAL (2009)
Z.P. MOURELATOS (2009)	P.M. LAROCHELLE (2011)
K. RAMANI (2011)	JAMES SCHMIEDELER (2011)
T. SIMPSON (2009)	J.M. RICO (2009)
B. YANNOU (2012)	K.-L. TING (2011)
Design Education	H.-S. YAN (2010)
JANIS TERPENNY (2011)	Design Theory and Methodology
Design Innovation and Devices	J.K. ALLEN (2009)
D. BREI (2011)	J. CAGAN (2011)
M.I. FRECKER (2011)	J.K. GERSHENSON (2009)
A. SLOCUM (2011)	
Design for Manufacturing and the Lifecycle	
J.W. HERRMANN (2009)	

Several re-appointment and new associate editor nominations are planned. The total number of AEs at steady state is targeted to be 25, with increased emphasis on international representation and cross-disciplinary areas. The latter implies that there is

no one-on-one correspondence between AEs and TCs. Recognition plaques are mailed to each 'graduating' AE.

5. Journal Quality

Targeted time for review completion is 6 months with no more than 4 months wait time for appearance after that.

Impact factors are reported as:

2002: 0.268, 12th out of 18 ASME journals
2003: 0.354, 15th out of 18 ASME journals
2004: 0.461, 10th out of 18 ASME journals
2005: 1.245, 2nd out of 18 ASME journals
2006: 1.252, 2nd out of 18 ASME journals
2007: 1.103, 3^d out of 18 ASME journals
2008: 1.532, 2^d out of 18 ASME journals

The migration of M&R papers to JMR was expected to have measurable negative impact, but the impact factor actually improved. No long-term trends can be deduced from this though.

Respectfully submitted,



Panos Y. Papalambros

July 22, 2009



DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING
THE HENRY SAMUELI SCHOOL OF ENGINEERING

4200 Engineering Gateway
Irvine, CA 92697-3975
Phone: (949) 824-5406
Fax: (949) 824-8585
<http://mac.eng.uci.edu>

Report to the Executive Committee of the Design Division Journal of Mechanisms & Robotics

Prepared by J. Michael McCarthy

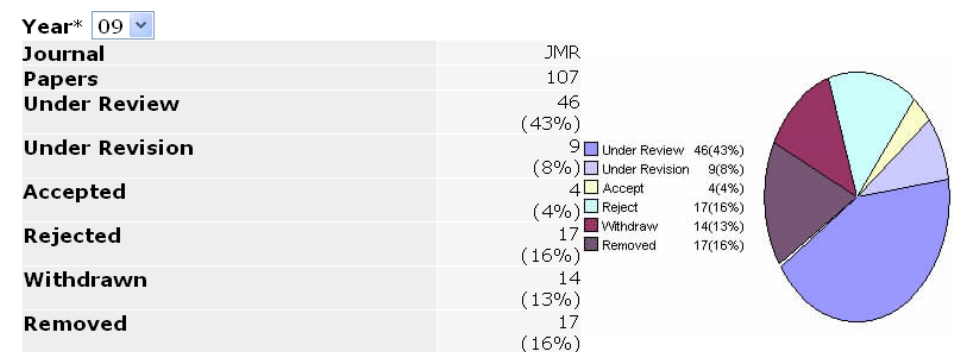
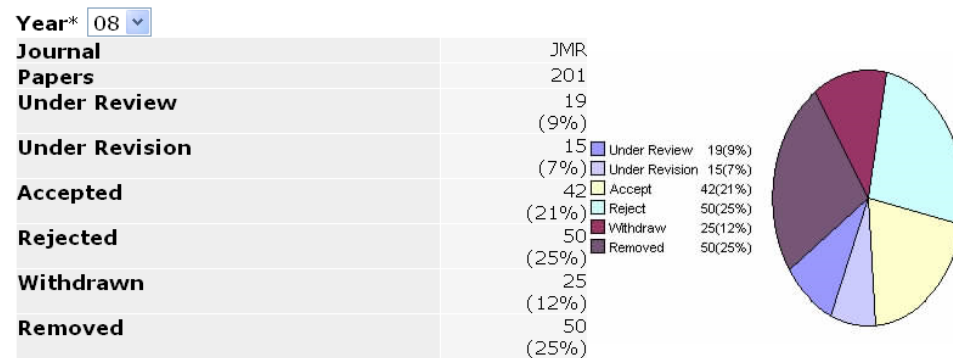
July 31, 2009

I. Overview

A. Paper Review Process:

- i. January 1, 2008 to December 31, 2008: 207 papers submitted
184 closed (26% accepted) in an average of 4 months, 23 open for an average of 9 months
- ii. January 2009, to June 29, 2009: 99 papers submitted
50 closed (8% accepted) in an average of 2 months, 49 open for an average of 3 months

ASME JMR records similar statistics from the web page, which run for the calendar year.



--The ASME statistics collect the information on all papers in the yearly time windows. In some cases, it can take over a year before the decision on particular papers is resolved.

--The JMR statistics were developed as an in-progress snap-shot from August of one year to August of the next. The acceptance rate shown will increase over time, because papers open longer are usually under revision.

More ASME statistics:

Journal data:

Journal	Papers	In Progress	Accepted	Rejected	Withdrawn	Removed
2008	201	34	42 (21%)	50	25	50
2009	107	55	4 (4%)	17	14	17
All Years	310	89	46 (15%)	67	41	67

Review Process data:

	Average Days			Average Months	
Journal	Assigned to AE	TE Decision	TE Approval	Draft TE Decision	Draft TE Approval
2008	15	2	9	4.786	7.046
2009	8	2	15	3.071	3.017
All Years	12	2	29	5.183	7.037

--The ASME statistics do not always add up due to the time in which the statistics are collected.

B. Production Backlog: Next issue is August 2009, 22 papers are in final production for November 2009 and February 2010. A final manuscript accepted in August 2009 will appear in print May 2010, which is a nine month backlog. This suggests the need to move to bimonthly production with an additional 200 pages.

II. Production

A. Production schedule

- i. February 1, 2009, quarterly, May 1, 2009, August 1, 2009 allocation, 600 pages.

B. Themed collections of papers

- i. Proposed: Innovations in robot and mechanism design, Guest editors: Dennis Hong and Clement Gosselin

III. Status of Associate Editors

A. AE's ending their terms in 2011

- i. Suresh G.K. Ananthasuresh, January (Mechanisms and Robotics)
- ii. Jorge Angeles, January (Mechanisms and Robotics)
- iii. Jian S. Dai, January (Mechanisms and Robotics)
- iv. Sundar Krishnamurty, January (Mechanisms and Robotics)
- v. Vijay Kumar, January (Mechanisms and Robotics)
- vi. Qizheng Liao, January (Mechanisms and Robotics)
- vii. Jean-Pierre Merlet, January (Mechanisms and Robotics)
- viii. Andrew P. Murray, January (Mechanisms and Robotics)
- ix. Frank Chongwoo Park, January (Mechanisms and Robotics)
- x. Feng Gao, December (Mechanisms and Robotics)

Recognition plaques are mailed to each former AE.

B. New Associate Editors beginning in 2010:

- i. Need four new Associate Editors

IV. Interaction between JMR and IDETC:

- i. September 2009: AE dinner with ASME staff is scheduled for those who attend the 2009 IDETC in San Diego, on Sunday, August 30, 2009

V. Quality of JMR

A. Production issues:

- i. The e-First system populates the on-line journal issue on a first come first served basis.
- ii. Page count for July 1, 2008 through June 30, 2009 is 600 pages. Our submissions are on track for 2009 to exceed 200 manuscripts per year. 200 additional pages are needed to accommodate this growth. Combined with

the 200 pages required to reduce the backlog, the journal needs an increase of 400 pages for the July 1, 2010 to June 30, 2011 fiscal year. This brings the number of pages for JMR to 1000.

B. Impact Factor

i. The Journal of Mechanisms and Robotics is not currently indexed. It is time to apply to have JMR indexed on the Science Citation Index.

C. The Future

i. A better on-line presence is needed for JMR. We should encourage video demonstration of new designs and experimental results..

Sincerely,



J. Michael McCarthy
Professor
University of California, Irvine

ASME Journal of Vibration and Acoustics
Report to DED
July 2009

Kon-Well Wang
Editor

The purpose of the Journal of Vibration and Acoustics (JVA) is to serve as a vehicle for the communication of original research results of permanent interest in all areas of vibration and acoustics. Papers published by the journal are full-length articles of considerate depth. The journal also presents Technical Briefs, which are intended to serve as a means for the rapid communication of recent developments in an abridged form. Examples of specific topic areas covered include, but not limited to: vibration of continuous and lumped parameter systems; linear and non-linear vibrations; random vibration; modal analysis; mechanical signatures; structural dynamics and control; vibration suppression; vibration isolation; passive and active damping; machinery dynamics; rotor dynamics and vibration; acoustic emission; noise control; machinery noise; structural acoustics; fluid-structure interaction; aeroelasticity; and flow induced noise and vibration.

We are increasing the numbers of Associate Editors (AEs) to reduce the AE workload and reduce paper handling/review time. During the past couple of years, Professor Bogdan Epureanu from the University of Michigan, Professor Alan Palazzolo from Texas A&M, Professor Massimo Ruzzene from Georgia Tech, Professor Steve Shaw from the Michigan State University, Professor Tom Royston from the University of Illinois Chicago, and Professor Jiong Tang from the University of Connecticut were nominated and approved as new associate editors.

The Journal is experiencing an increasing rate of paper submission during the past few years. There have been 112 papers submitted in 2003, 193 in 2004, 215 in 2005, 263 in 2006, 241 in 2007 and 237 in 2008.

To help the authors update their references, we have implemented the following process since mid 2006: When a paper is accepted for publication, in the Editor's email to the author, we provide the authors with a list of recent (last 2 years) relevant JVA publications (selected by the Editor) for their reference and citation. We made it clear to the authors that our intention is only to provide new information that might not be available when they first submitted their manuscript and to help them further refine and update their papers. It is the authors' decision whether they use it or not.

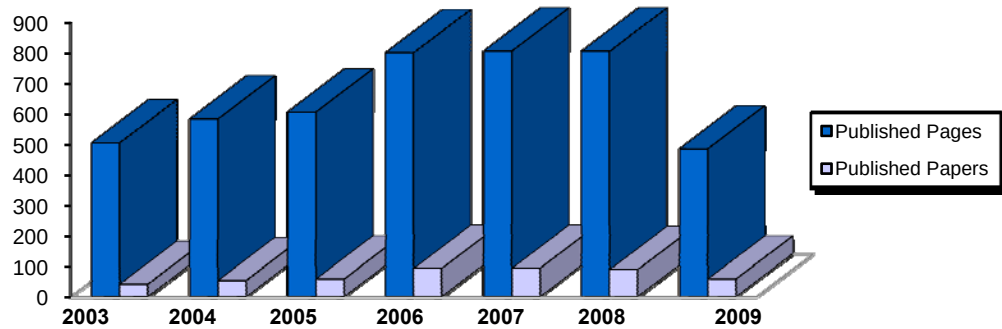
We will communicate with the 2009 IDETC symposium organizers to identify and solicit high quality papers from the Conference. These papers will go through the regular rigorous journal review process.

Associate Editors and Areas of Expertise

Name	Institution	Term 1 End Date	Term 2 End Date	Area of Research
Michael Brennan	University of Southampton, UK	12/31/2009		Vibration and noise control, smart structures
William Clark	University of Pittsburgh	12/31/2006	12/31/2009	Vibration control, smart structures, sensors & actuators
Bogdan Epureanu	University of Michigan	12/31/2010		Fluid structure interactions, nonlinear vibrations, structural health monitoring
Brian Feeny	Michigan State University	12/31/2008	12/31/2011	Structural vibration, system identification, and friction dynamics
Jean-Claude Golinval	University of Liege, Belgium	12/31/2007	12/31/2010	Modal analysis, testing, finite element updates
Karl Grosh	University of Michigan	12/31/2006	12/31/2009	Structural acoustics, bioacoustics, MEMS
Stephen Hambric	Applied Research Labs, Penn State	6/15/2008	6/15/2011	Structural acoustics, computational methods
Sotirios Natsiavas	Aristotle University, Greece	12/31/2006	12/31/2009	Nonlinear & multi-body systems, system identification
Alan Palazzolo	Texas A&M University	12/31/2010		Rotor dynamics, active bearings and rotor controls
Robert Parker	Ohio State University	12/31/2005	12/31/2009	Gyroscopic systems, gear and transmission dynamics
D. Dane Quinn	The University of Akron	12/31/2005	12/31/2009	Nonlinear dynamics, resonance capture, robust control
Christopher Rahn	The Penn State University	12/31/2008	12/31/2011	Active vibration control, continuous structures, MEMS, mechatronics
Thomas J. Royston	University Illinois Chicago	08/31/2011		Acoustic and vibration for bio-medical applications.
Massimo Russene	Georgia Tech	12/31/2010		Structural dynamics and mechanics, fluid-structure interactions
Steven W. Shaw	Michigan State University	12/31/2010		Nonlinear vibration, MEMS dynamics
I.Y. (Steve) Shen	University of Washington	6/15/2008	6/15/2011	Rotating systems, damping, MEMS, smart structures
Cheng-Kuo Sung	National Tsing Hua University, Taiwan	11/30/2009		Machine dynamics, smart structures, precision machine design
Jiong Tang	University of Connecticut	12/31/2011		Structural and system dynamics, vibration analysis, control, sensing and monitoring, smart materials and mechatronics.
Jeffrey Vipperman	University of Pittsburgh	11/30/2009		Active noise and vibration control, smart materials and structures
Weidong Zhu	University of Maryland, Baltimore County	5/31/2010		Structural dynamics and vibration, vibration based damage detection
Jean Zu	University of Toronto, Canada	12/31/2009		Machine dynamics, nonlinear vibrations

Summary of papers published in issues from January 1, 2003 through July 01, 2009

	2003	2004	2005	2006	2007	2008	2009
Num. of Pages Published	506	584	607	802	807	807	486
Num. of Papers Published	41	53	58	93	93	89	58



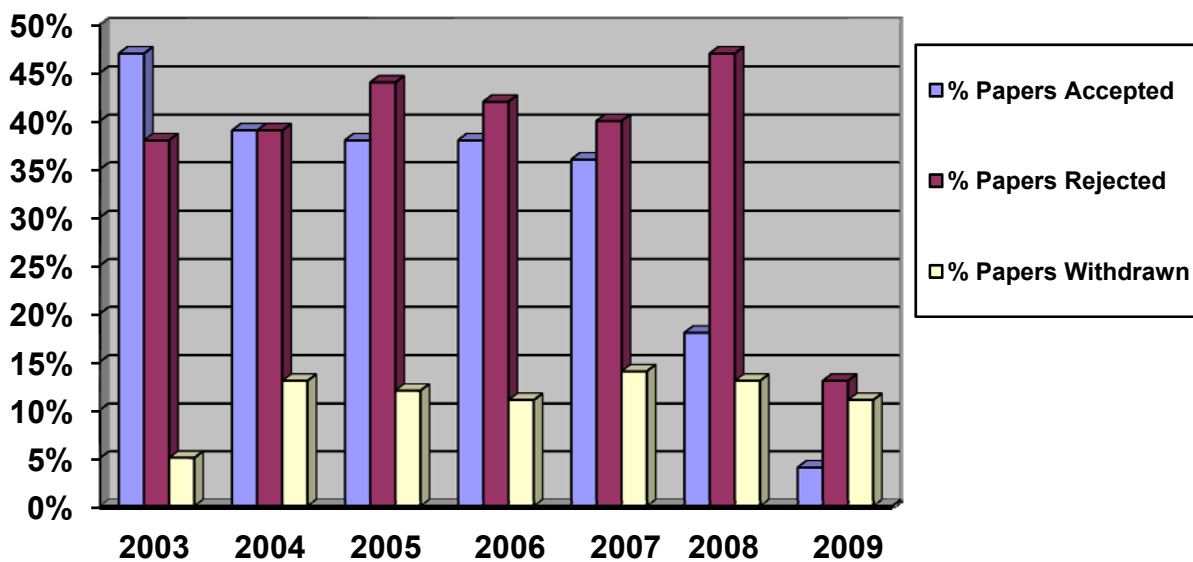
Distributions of papers submitted each year (January 1, 2003 – July 01, 2009)*

	2003	2004	2005	2006	2007	2008	2009
Submitted Papers	112	193	215	265	241	237	140
Accepted Papers	53	75	81	102	87	43	4
Rejected Papers	42	76	95	112	96	111	19
Withdrawn Papers	6	26	25	29	34	30	16
Removed Papers	11	16	8	15	11	7	6

* Note: These numbers are downloaded from the ASME web tool, which reflect the distributions of the papers *submitted* that year, but not the actual “activities” that year. The actual activities should include actions on papers submitted in prior years as well.

***Percentages of distributions of papers submitted each year**
(January 1, 2003 – July 01, 2009)***

	2003	2004	2005	2006	2007	2008	2009
% Papers Accepted/Published	47%	39%	38%	38%	36%	18%	4%
% Papers Rejected	38%	39%	44%	42%	40%	47%	13%
% Papers Withdrawn	5%	13%	12%	11%	14%	13%	11%



** Note: These percentages are calculated based on numbers in the previous table summarizing distributions of papers submitted each year.

ASME Journal of Computational and Nonlinear Dynamics
Report to DED Executive Committee/MSND

July 2009

(Editor: Subhash C. Sinha, Auburn University)

Special Projects: Special Issue (July 2010, tentative): Multidisciplinary high performance computational multibody dynamics
 (Edited by Dan Negrut & Olivier Bauchau)

Current Status: Citations of individual articles can be found on the databases (e.g., Web of Science). However, JCND was not included in the Journal Citation Reports (JCR) in 2008. Hopefully, it would be included in 2009. A citation report using the 'Web of Science' tool is included as attachment on Page 6.

Competition:

1. *Nonlinear Dynamics*, Springer Publication
2. *International Journal of Nonlinear Mechanics*, Elsevier Publication,
3. *Communications in Nonlinear Science and Numerical Simulation*, Elsevier Publication

Associate/Guest Editors and Area of Expertise

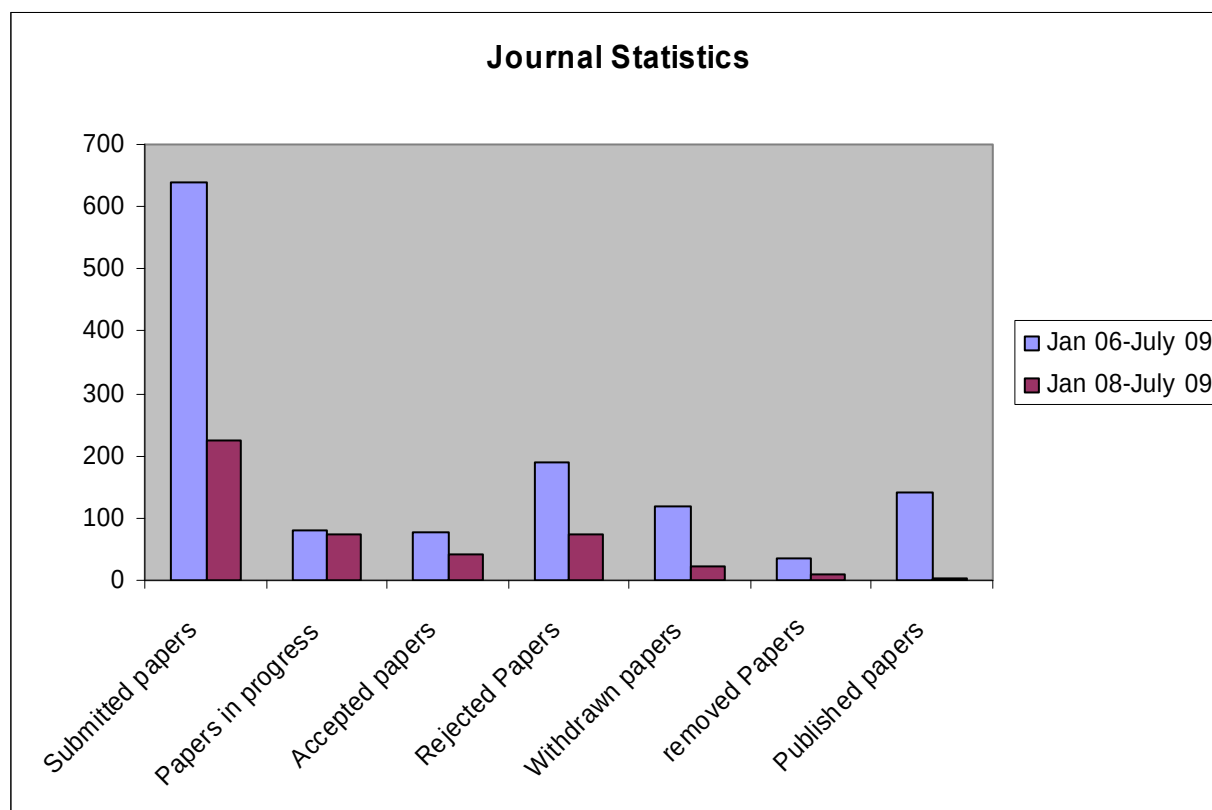
Name	Institution	Term End Date	Area of Research
Om Prakash Agrawal	Southern Illinois University	01 Jul 2011	Fractional Derivatives and their Applications, Rigid and Flexible Multibody Dynamics
Dr. Kurt S. Anderson	Rensselaer Polytechnic Institute	01 Jul 2011	Multibody Systems Dynamics, Computational Methods, Advanced Computation
Bala Balachandran	University of Maryland	01 Jul 2011	Nonlinear Dynamics- Analytical Methods, Experiments, Impacts, Control of Bifurcations, Applications in Manufacturing
Olivier A. Bauchau	Georgia Institute of Technology	01 Jul 2011	Flexible and Multibody Systems
Alain Berlioz	University of TOULOUSE, France	01 Jul 2011	Design, Experiments in Nonlinear And Dynamics, Control of Structures and Multibody Systems
Harry Dankowicz	University of Illinois at Urbana-Champaign	01 Jul 2011	Nonlinear Dynamics, Nonsmooth Dynamics Systems, Control, Multibody Systems Dynamics
Al Ferri	Georgia Institute of Technology	01 Jul 2011	Frictional, Discontinuous, Nonlinear dynamical systems

Henryk Flashner	University of Southern California	15 Jan 2011	Nonlinear Bifurcation, Linear & Nonlinear Control of Time Varying Systems
Claude-Henri Lamarque	Ecole Nationale des Travaux Publics de l'Etat, France	Renewal in process	Nonlinear dynamics, chaos, non Smooth systems, nonlinear Vibrations, Dynamics of Structures And shells
Hamid M. Lankarani	Wichita State University	01 Jul 2011	Multibody Dynamics, Impact Dynamics, Crashworthiness, Biomechanics
Albert C.J. Luo	Southern Illinois University at Edwardsville	Renewal in process	Nonlinear and Dynamics, Nonlinear Continuum Mechanics And Damage Mechanics
J. A. Tenreiro Machado	Institute of Engineering of Porto, Portugal	01 Jul 2008	Fractional calculus, Robotics, Control
John J. McPhee	University of Waterloo, Canada	01 Jul 2011	Multibody Dynamics and Graph Theory, Vehicle Dynamics, Biomechanics, Contact, and Friction
Aki Mikkola	Lappeenranta University of Technology, Finland	Renewal in process	simulation of machine systems, Flexible Multibody Dynamics, Nonlinear FE formulations
Dan Negrut (Guest Editor)	University of Wisconsin-Madison	01 Feb 2010	Multibody Dynamics
Christophe Pierre	McGill University, Canada	01 Jul 2011	Nonlinear Dynamics-Nonlinear Vibrations Coupled to Rigid-body Motion, Nonlinear Normal Modes, Localization, Applications to Nonlinear Structural and Mechanics Systems
Giuseppe Rega	University of Rome, Italy	01 Jul 2011	Nonlinear Dynamics, Computational Mechanics
Werner Schiehlen	University of Stuttgart	01 Jul 2011	Nonlinear Dynamics-Fundamental Problems, Analytical, and Numerical Methods
Ahmed A. Shabana	University of Illinois at Chicago	01 Jul 2011	Multibody Systems Dynamics, Finite Elements, Computational Mechanics
Professor Nobuyuki Shimizu	Iwaki Meisei University, Japan	Renewal in process	Multibody dynamics, fractional Differentiation, damping Technology, dynamics of soft Materials
Lawrie Virgin	Duke University	01 Jul 2011	Experimental Methods, Structural Vibrations, Stability
Wan-Suk Yoo	Pusan National University, South Korea	01 Jan 2010	Flexible multibody dynamics, Computational kinetics and dynamics, Vehicle dynamics & suspension

Summary of Activities

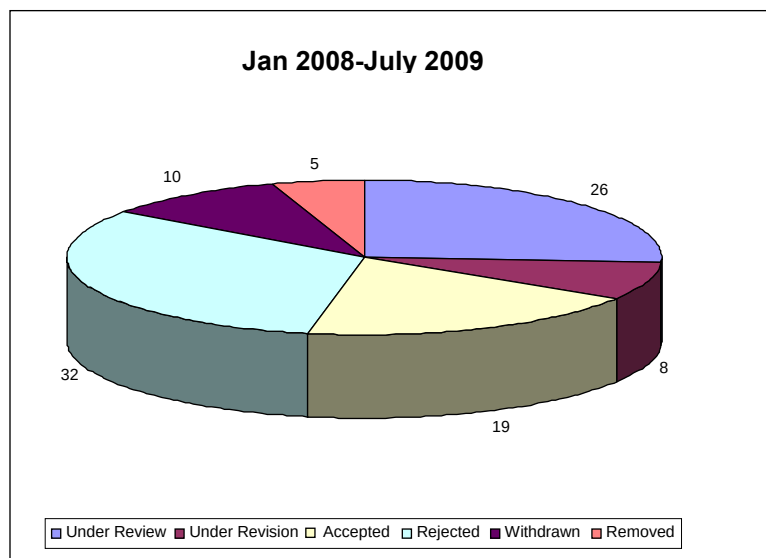
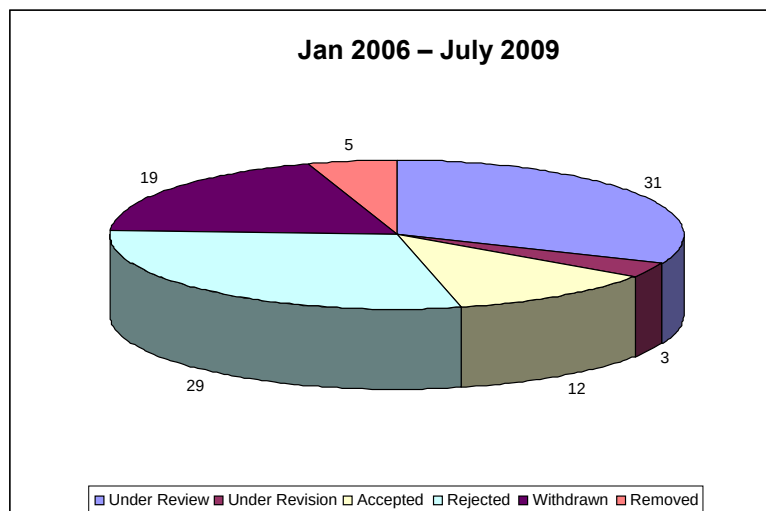
Journal Statistics:

	Jan 2006-July 2009	Jan 2008-July 2009
Submitted Papers	639	226
Papers in Progress	79	73
Accepted Papers	76	42
Rejected Papers	188	75
Withdrawn Papers	120	23
Removed Papers	35	11
Published Papers	141	2
Number of Published Pages	1144	770



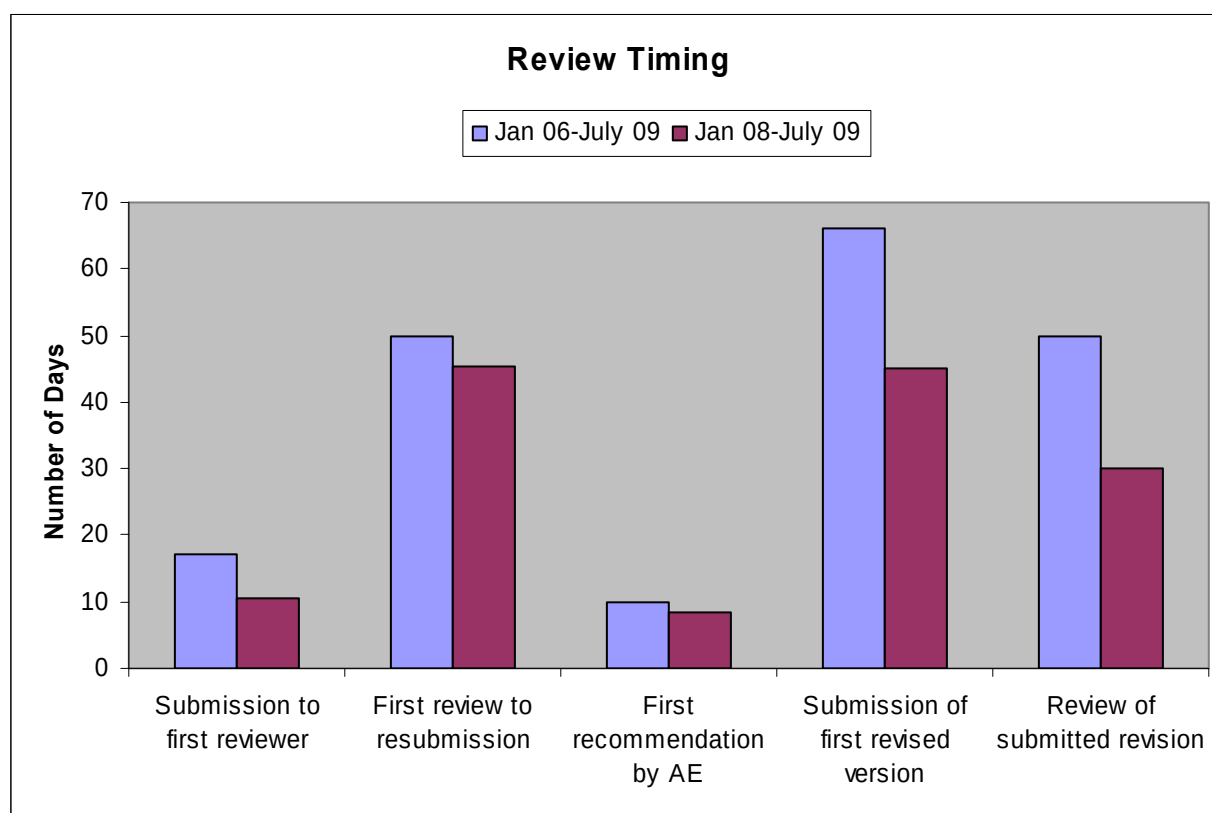
Percentages:

	Jan 2006-July 2009	Jan 2008-July 2009
% of Papers Accepted	12	27
% of Papers Rejected	29	49
% of Papers Withdrawn	19	15



Review Timing
(Time in days)

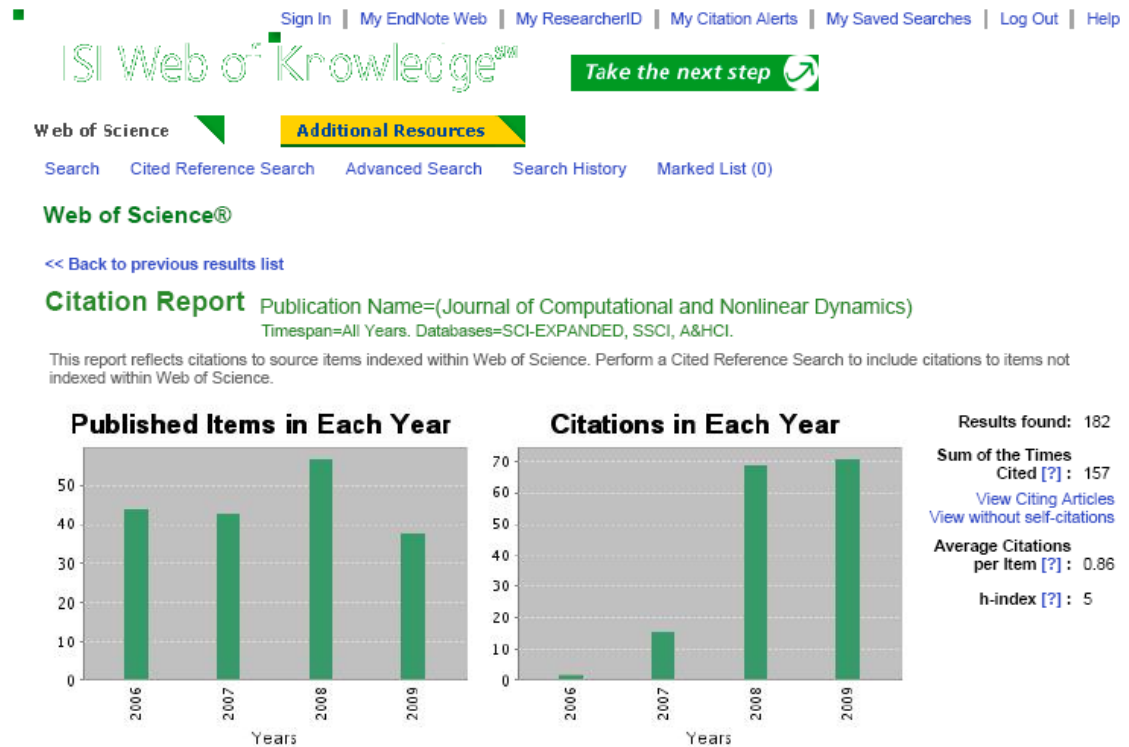
	Jan 06-July 09	Jan 08-July 09
Submission to first reviewer	17	10.5
First review to resubmission	50	45.5
First recommendation by AE	10	8.5
Submission of first revised version	66	45
Review of submitted revision	50	30



Citation report using the 'Web of Science' Tool:

ISI Web of Knowledge [v.4.6] - Web of Science

Page 1 of 2



***ASME Journal of Computing & Info Science (JCISE)
Annual Report to DED & CIE, June, 2009***

Under the Request of Jami Shah, Editor-in-Chief of JCISE, the ASME confidential information is not included in this report.

Summary of Activity (January 1, 2001 – June 2009)

Percentages(based on total decisions made in that year)

% Papers never Resubmitted after being placed in major revision category

Reviewing(& publication) Time averages (Months)

Backlog

Paper Stats

Special Projects in 2008-09 1. Preparation to migrate from eLane to ASME journal tool.

2. Two special issue appeared in 2008: Engineering Informatics (E. Subrahmaniam, R. Sudarasan) and Haptics in Virtual Reality (Jim Oliver & T. Kesavadas)

Associate Editors and Areas of Expertise: 2008-09

Name	Institution	Term 1 End Date	Term 2 End Date	Area of expertise
Rich Crawford	UT Austin	6/02-6/05	1/06-12/08	RP, CAD
Jonathan Corney	Heriot-Watt Edinburgh UK	3/03-3/06	4/06-4/09	CAM, CAPP
Vadim Shapiro	U. Wisconsin	7/03-6/06	7/06-7/09	Solid modeling
Jan Vandenbrande	Boeing Co.	12/04-12/07	1/08 – 1/11	CAPD
Jim Oliver	Iowa State	5/05-5/08	6/08 – 6/11	Virtual Reality
Leo Joskowicz	Hebrew U, Israel	5/05-5/08	not renewed	Artificial Intelligence
John Michopoulos	ONR	5/05-5/08	6/08 – 6/11	FEA, simulation
SK Gupta	U. Maryland	1/06-12/08	1/09 – 12/11	CAM, features
Sean Callahan	Boeing Co.	3/06-3/09	none	PDM, Informatics
Kincho Law	Stanford	8/06-8/09		Informatics
Anath Fischer	Technion, Israel	1/07-12/09		CAGD, Comp metrology
Keiichi Watanuki	Saitama U, Japan	3/08 – 3/11		VR, KBS
Ian Grosse	UMass Amherst	3/08 – 3/11		Optimization; FEA
Sara McMains	UC Berkeley	7/08 – 7/ 11		Geom Modeling
Kazu Saitou	U Michigan	5/09 – 5/12		FEA, simulation
Ashok Goel	GeorgiaTech, CS	5/09 – 5/12		AI/KBS
Shuming Gao	Zhejiang U, CS	5/09 – 5/12		Computational Geometry
Chris Geiger	Dusseldorf, Dept of Media	5/09 – 5/12		VR/Haptics
Xiaping Qian	IIT Chicago	6/09 – 6/12		Computational Metrology

Impact Factors: Peer journals

Journal	Publisher	2006	2007	2008
JCISE	ASME	0.531	0.446	0.807
Adv in Eng Software	Elsevier	0.431	0.529	1.18
AIEDAM	Cambridge U Press	0.405	0.279	0.477
Computer aided Design (CAD)	Elsevier	1.446	1.22	1.474
Concurrent Eng Res & App	Sage	0.569	0.482	0.611
Int J Adv Manuf Tech	Springer	0.418	0.378	0.743
Int J CIM	Taylor & Francis	0.383	0.297	0.722
J Manuf Sys	SME	0.150	0.032	0.214
J. Intel Manuf	Springer	0.598	0.419	1.01
Manuf Science & Eng Transactions	ASME	0.536	0.595	0.740
Res Eng Design	Springer	0.667	0.517	1.32

Impact Factors: ASME journals (2008) – from ISI webpage

Rank	Abbreviated Journal Title (linked to journal information)	ISSN		
			Total Cites	Impact Factor
1	J BIOMECH ENG-T ASME	0148-0731	4849	2.013
2	J MECH DESIGN	1050-0472	2834	1.532
3	J HEAT TRANS-T ASME	0022-1481	5323	1.421
4	J TURBOMACH	0889-504X	2193	1.297
5	J FUEL CELL SCI TECH	1550-624X	279	1.167
6	J APPL MECH-T ASME	0021-8936	7951	1.065
7	J ENG MATER-T ASME	0094-4289	1596	0.938
8	J ELECTRON PACKAGING	1043-7398	742	0.827
9	J COMPUT INF SCI ENG	1530-9827	306	0.807
10	J DYN SYST-T ASME	0022-0434	1796	0.753
11	J MANUF SCI E-T ASME	1087-1357	1221	0.740
12	J ENG GAS TURB POWER	0742-4795	1882	0.735
13	J VIB ACOUST	1048-9002	1419	0.728
14	J TRIBOL-T ASME	0742-4787	1787	0.722
15	J SOL ENERG-T ASME	0199-6231	641	0.662
16	J FLUID ENG-T ASME	0098-2202	2320	0.628
17	J PRESS VESS-T ASME	0094-9930	959	0.449
18	J OFFSHORE MECH ARCT	0892-7219	245	0.447
19	J ENERG RESOUR-ASME	0195-0738	333	0.407
20	MECH ENG	0025-6501	524	0.277

ASME Journal of Medical Devices

2009 ASME DED General Meeting

Submitted by Editors:

Arthur G. Erdman, Ph.D.
University of Minnesota
612.625.8580
agerdman@me.umn.edu

Gerald E. Miller, Ph.D.
Virginia Commonwealth University
(804) 828-7263
gemiller@vcu.edu

Special Projects

In order to stimulate authors to submit more papers to the journal, the Design of Medical Devices Conference accepted 101 abstracts that will be published again in the journal with the best 3 papers being offered a two page paper in the journal (when peer reviewed). Also, free copies of the Journal were handed out again at the 2009 DMD conference. See <http://www.dmd.umn.edu/>

Current Status and Outlook

Tenth Issue nearly ready to be published.

Medline

Jerry Miller is working on this.

Competition

There are no direct competitors to JMED. Some of the clinical specific publications do report device development, but not in any detailed form.

Associate Editors and Areas of Expertise

*these AE's have been approved for re-appointments (2009-2012)

Name	Institution	Term 1 End Date	Term 2 End Date	Area of Research
*Ted Conway	Virginia Commonwealth University	01 Jan 09	01 Jan 12	Rehabilitation Engr
Danny Bluestein	Stony Brook University	31 Dec 10	NA	Biofluid devices including cardiovascular devices, stints and valves.
Jaydev Desai	University of Maryland	31 Dec 10	NA	Soft-tissue modeling for surgical stimulation, haptic feedback interfaces, laparoscopic device development for robot-assisted surgery and cell
Cheng Dong	The Pennsylvania State University	31 Dec 10	NA	Interface between devices and cells as well as fluid mechanics.

<i>*Vijay Goel</i>	<i>University of Toledo</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Spine mechanics</i>
<i>*Just Herder</i>	<i>Delft University of Technology</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Mechanical design, mechanism synthesis, static balancing, dynamic balancing, compliant mechanisms, parallel mechanisms, kinematics, robotics, mechatronics, biomechanics, rehabilitation, prosthetics and orthotics, minimally invasive surgery, human-machine interaction</i>
<i>*Paul A. Iaizzo</i>	<i>University of Minnesota</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Cardiovascular devices, Neurological devices, Minimally invasive devices, Human performance/force assessment, New medical sensors/actuators and Surgical Procedures</i>
<i>*Hamid M. Lankarani</i>	<i>Wichita State University</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Crashworthiness, Occupant Protection of Transportation Systems, Biodynamics, Injury Biomechanics, Multibody Dynamics, Structures, Impact Dynamics</i>
<i>*M.Y. Lee</i>	<i>Chang Gung University</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Technical aids and assistive devices for disabled;Barrier-free environmental adaptive systems;Computer aided surgical tools and navigation system;Computer-aided rehabilitation systems (diagnostic/ assessment/ training);Automatic caring facilities for hospital (such as automatic patient bed, patient transfer systems);Reverse engineering and rapid prototyping in medical applications (such as computer assisted implant design and manufacturing, design of new RP machine for medicine);Medical robots and medical mechatronics systems;Creative design for medical devices;e-learning and training on medical mechatronics;Student hands-on project and problem-based learning in the design of medical devices</i>
<i>*James Moore</i>	<i>Texas A & M</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Biofluid mechanics</i>

	<i>University</i>			
<i>*Jahangir Rastegar</i>	<i>SUNSYB</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Surgical automation and robotics, design of novel medical devices, novel sport safety and accident prevention equipment and devices, heart-assist and circulation-assist devices, development of assist devices for rehabilitation and for the aged</i>
<i>*Erol Sancaktar</i>	<i>University of Akron</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Research interests include mechanical behavior of adhesives, polymers, composites; materials characterization; viscoelasticity; fracture mechanics; experimental and theoretical solid mechanics; design and manufacture with novel materials</i>
<i>*Foster B. Stulen</i>	<i>Ethicon Endo-Surgery</i>	<i>01 Jan 09</i>	<i>01 Jan 12</i>	<i>Ultrasonics, Medical instrumentation, Endoscopic/Laparoscopic devices, Medical device design processes, Medical device manufacturing, Human factors in medical devices</i>

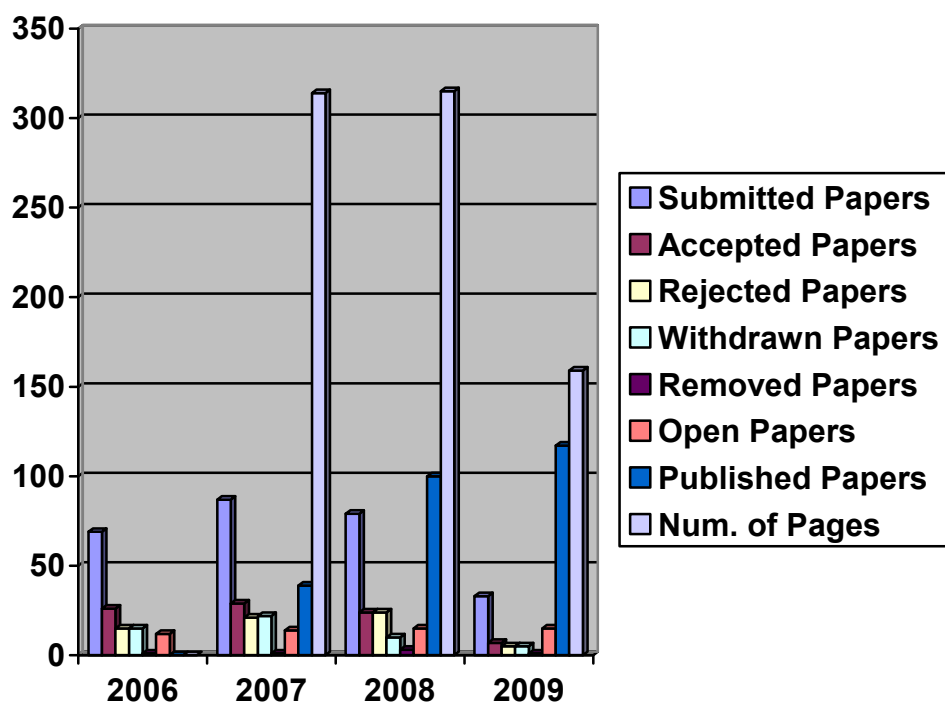
Summary of Activity

	2006	2007	2008	2009*
Total Submitted Papers	69	87	79	33
Accepted Papers	26	29	24	7
Rejected Papers	15	21	24	5
Withdrawn Papers	15	22	10	5
Removed Papers	1	1	3	1
Open Papers	12	14	15	15
Published Papers	0	39	100***	117**
Num. of Pages	0	314	315***	159**

*January 1 – May 31, 2009

**Includes Abstracts from the 2009 Design of Medical Devices Conference=101 total

***Includes Abstracts from the 2008 Design of Medical Devices Conference=63 total

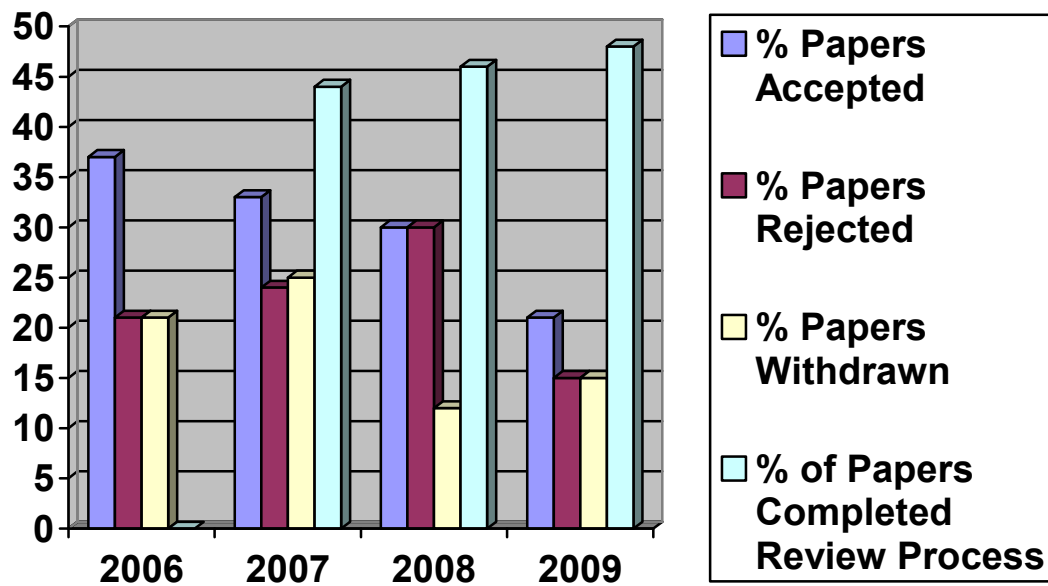


Percentages

	2006	2007	2008	2009*
% Papers Accepted (Accepted Papers ÷ Total Submitted Papers)	37%	33%	30%	21%
% Papers Rejected (Rejected Papers ÷ Total Submitted Papers)	21%	24%	30%	15%
% Papers Withdrawn (Withdrawn Papers ÷ Total Submitted Papers)	21%	25%	12%	15%
% of Papers Completed Review Process (Total Published Papers ÷ Total Submitted Papers)	NA	44%	†46%	†48%

*January 1 – May 31, 2009

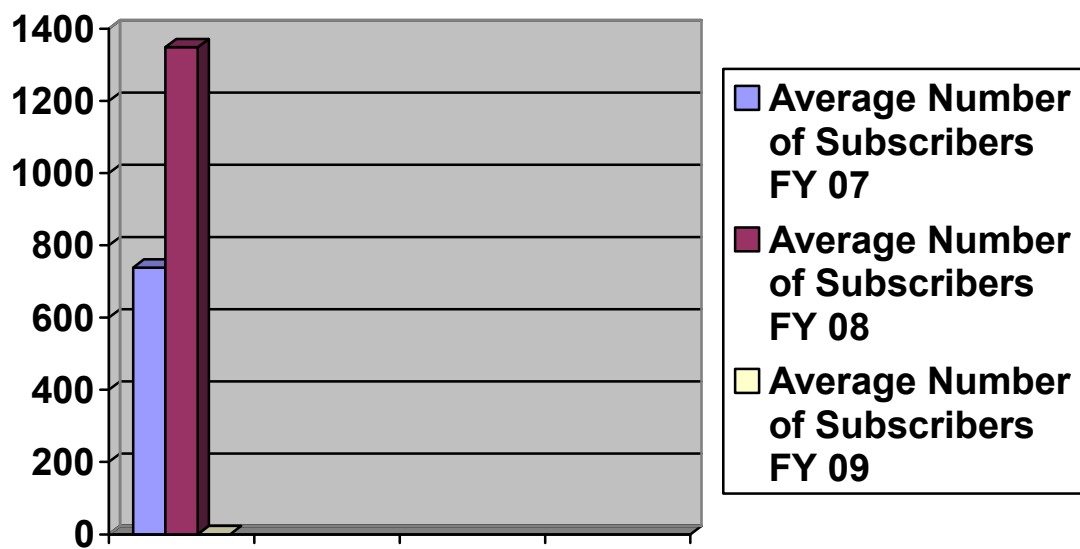
†Does not include DMD Conference Abstracts



Journal of Medical Devices Subscription Copies

Average Number of Subscribers

Average Number of Subscribers FY 07	738
Average Number of Subscribers FY 08	1348
Average Number of Subscribers FY 09	available as usual towards the end of the year for Congress



Journal of Medical Devices

Published Quarterly by ASME

VOLUME 3 • NUMBER 2 • JUNE 2009 **nearly ready for publication**

RESEARCH PAPERS

Physical Simulation Environment for Arthroscopic Joint Irrigation

Gabriëlle J. M. Tuijthof, Paul M. Heeman, C. Niek Van Dijk, and Leendert Blankevoort

Performance Evaluation of a Planar 3DOF Robotic Exoskeleton for Motor Assessment

Stephen J. Ball, Ian E. Brown, and Stephen H. Scott

Arthroscopic Sheath Design and Technical Evaluation

Gabriëlle J. M. Tuijthof, Leendert Blankevoort, Just L. Herder, and C. Niek van Dijk

TECHNICAL BRIEFS

A New System for Monitoring Gait Training in Infants With Down Syndrome

Sigal Portnoy, Amit Gefen, Assaf Ohana, and Ziva Yizhar

Policy-Induced Constraints in the Design and Commercialization of Monitoring Devices: An Assessment of Three Technologies' Reimbursement Models

Sunil K. Rao and Jan B. Pietzsch

DESIGN INNOVATION

Design of a Catheter-Based Device for Performing Percutaneous Chordal-Cutting Procedures

Alexander H. Slocum, Jr., William R. Bosworth, Anirban Mazumdar, Miguel A. Saez, Martin L. Culpepper, and Robert A. Levine

2009 DESIGN OF MEDICAL DEVICES CONFERENCE ABSTRACTS

Almost complete

VOLUME 3 • NUMBER 1 • MARCH 2009

RESEARCH PAPERS

Optimal Path Planning for Robotic Insertion of Steerable Electrode Arrays in Cochlear Implant Surgery

Jian Zhang, J. Thomas Roland, Jr., Spiros Manolidis, and Nabil Simaan

Hydrodynamic Evaluation of a Minimally Invasive Heart Valve in an Isolated Aortic Root Using a Modified In Vitro Model

Qiang Wang, Fernando Jaramillo, Yasushi Kato, Leonard Pinchuk, and Richard T. Schoephoerster

Improving Maneuverability and Tactile Feedback in Medical Catheters by Optimizing the Valve Toward Minimal Friction

S. K. Ravensbergen, P. C. J. N. Rosielle, and M. Steinbuch

Development of an Automated Steering Mechanism for Bladder Urothelium Surveillance

W. Jong Yoon, Sangtae Park, Per G. Reinhall, and Eric J. Seibel

Optimization of Plasma Treatment, Manipulative Variables and Coating Composition for the Controlled Filling and Coating of a Microstructured Reservoir Stent

Mustapha Mekki, Stéphane Durual, Susanne S. Scherrer, Johannes Lammers, and H. W. Anselm Wiskott

A Scaling Parameter for Predicting Pressure Wave Reflection in Stented Arteries

John J. Charonko, Saad A. Ragab, and Pavlos P. Vlachos

Design of an Underactuated Compliant Gripper for Surgery Using Nitinol

Mario Doria and Lionel Birglen

TECHNICAL BRIEFS*The Momedemameter: An Affordable Pre-Eclampsia Detector for Low Resource Environments*

Dianne Pawluk, David Burch, Jerome F. Strauss, III, Thomas Peng, and Ashley Woodward

Automating Skeletal Expansion: An Implant for Distraction Osteogenesis of the Mandible

John C. Magill, Marten F. Byl, Batya Goldwaser, Maria Papadaki, Roger Kromann, Brent Yates, Joseph R. Morency, Leonard B. Kaban, and Maria J. Troulis

DESIGN INNOVATION*Miniaturization of a Chest Compressor for Cardiopulmonary Resuscitation*

Carlos Castillo, Joe Bisera, Giuseppe Ristagno, Wanchun Tang, and Max Harry Weil

VOLUME 2 • NUMBER 4 • DECEMBER 2008**RESEARCH PAPERS***Instrumentation for Testing Soft Tissue Undergoing Large Deformation: Ex Vivo and In Vivo Studies*

Tie Hu, Alan C. W. Lau, and Jaydev P. Desai

Stress-Strain Behavior of a Smart Magnetostrictive Actuator for a Bone Transport Device

Yuehao Luo and Parsaoran Hutapea

An Engineering Approach for Quantitative Analysis of the Lengthwise Strokes in Massage Therapies

Hansong Zeng, Timothy A. Butterfield, Sudha Agarwal, Furqan Haq, Thomas M. Best, and Yi Zhao

A Newly Developed Infant Remote Monitoring System

Cheung-Hwa Hsu

Design Modifications and Optimization of a Commercially Available Knee Simulator

J. P. Kretzer, E. Jakubowitz, K. Hofmann, C. Heisel, J. A. Kleinhans, and M. Thomsen

Fabrication and Characterization of a Balloon Actuator Array for Haptic Feedback in Robotic Surgery

Chih-Hung King, Miguel Franco, Martin O. Culjat, Adrienne T. Higa, James W. Bisley, Erik Dutson, and Warren S. Grundfest

A Portable and Automated Postural Perturbation System for Balance Assessment, Training, and Neuromuscular System Identification

Albert H. Vette, Egor Sanin, Abdulkadir Bulsen, Alan Morris, Kei Masani, and Milos R. Popovic

TECHNICAL BRIEFS*A New Device for Measuring Knee Rotational Kinematics Using Magnetic Resonance Imaging*

R. Dana Carpenter, Sandra J. Shefelbine, Jesus Lozano, Julio Carballido-Gamio, Sharmila Majumdar, and C. Benjamin Ma

DESIGN INNOVATION*Vision Aid for Power Wheelchair Users*

Kyle C. Smith, Carlos A. C. Kemeny, Raymond Cipra, and Bradley S. Duerstock

VOLUME 2 • NUMBER 3 • SEPTEMBER 2008**RESEARCH PAPERS***A Compact and Modular Laparoscopic Grasper With Tridirectional Force Measurement Capability*

Gregory Tholey and Jaydev P. Desai

Novel Mechanical Actuation of a Modular Laparoscopic Surgical Tool

David J. Miller and Carl A. Nelson

An Infant Surgical Table for Laser Photocoagulation: Design and Development

Kimberly Ryland, Carl A. Nelson, and Thomas Hejkal

Synthesis of a Pattern Generation Mechanism for Gait Rehabilitation

Zhiming Ji and Yazan Manna

A Noninvasive System for Biomechanical Properties Measurement of Soft Tissue

James Mayrose

Mixing Efficiency of Red Blood Cells With Magnetic Microspheres for a Hybrid Separation System

Yousef Haik and Sridhar Kanuri

An Inexpensive, Highly Portable Optical to Haptic Graphical Display

David Burch, Justin Owen, and Dianne Pawluk

DESIGN INNOVATION*A Handheld Computer as Part of a Portable In Vivo Knee Joint Load-Monitoring System*

J. A. Szivek, V. S. Nandakumar, C. P. Geffre, and C. P. Townsend

Assessment of Current Continuous Hemofiltration Systems and Development of a Novel Accurate Fluid Management System for Use in Extracorporeal Membrane Oxygenation

Philippe Sucusky, Lakshmi P. Dasi, Matthew L. Paden, James D. Fortenberry, and Ajit P. Yoganathan

VOLUME 2 • NUMBER 2 • JUNE 2008RESEARCH PAPERS*Pressure Waves as a Noninvasive Tool for Artery Stiffness Estimation*

E. El-Aklouk, A. M. Al-Jumaily, and A. Lowe

An Ultrasound Probe Holder for Image-Guided Surgery

Basem Fayez Yousef, Rajni V. Patel, and Mehrdad Moallem

Kinematic Analysis and Optimization of a Novel Robot for Surgical Tool Manipulation

Xiaoli Zhang and Carl A. Nelson

DESIGN INNOVATION*Mechanical Performance of Generic and Proprietary Enema Bottles*

Donna L. Walsh, R. Jason Schroeder, and Sandy F.C. Stewart

Design of a Compliant Endoscopic Suturing Instrument

James A. Cronin IV, Mary I. Frecker, and Abraham Mathew

2008 DESIGN OF MEDICAL DEVICES CONFERENCE ABSTRACTS*Introduction*

Arthur G. Erdman, Paul Iaizzo and Will Durfee

Integrating Physicians, Researchers and Engineers -- 60 Years of Medical Device Innovation at Mayo Clinic

April E. Horne, Kevin A. Bennet, Nathan C. Buntrock, Thomas G. Halovsen, and Makr K. Wehde

Retention of Cardiac Auscultation Skill Requires Paired Visual and Audio Information in New Learners

Glenn Nordehn, Spencer Strunic, Tom Soldner, Nicholas Karlisch, Ian Kramer, and Stanley Burns

Headspace Moisture Analysis in Medical Device Packages

Bruce Linder, Michael Curtis, Jonas Weissenrieder, and Mark Schwab

Characterization of Chitosan Coated Magnetoelastic Materials for Use in Percutaneous Implants

L. P. Janka, S. Jang-Stewart, A. Hembolt, K. G. Ong, and R. M. Rajchar

A Novel Breast Stabilization Device for MRI-Guided Interventions

Blake T. Larson and Arthur G. Erdman

Vision-Based Patient Body Tracking in Helical Tomotherapy

Nathaniel Bird, Troy Dos Santos, Susanta Hui, and Nikolaos Papanikolopoulos

Mechanical Design for Modularity of Laparoscopic Tools

David J. Miller and Carl A. Nelson

Synthetic Soft Tissue Characterization of the Mechanical Analogue Lumbar Spine

Eugene E. Avidano, Leighton J. LaPierre, Elizabeth A Friis, John E. James, and Amy E. Johnson

Chronic VNS for the Treatment of Morbid Obesity

Jose V. Pardo

Design and Fabrication of a Micropump with Mixing Function for LOC

Ho-jin Kand and Bum-kyoo Choi

Nanofiber Covered Stent (NCS) for Vascular Diseases

Yixang Fong, Teo Wee Eong, Susan Liao, Casey Chan, and S. Ramakrishna

Radiopaque Nano-Porous Ta Coatings for Nitinol Medical Devices

Rent C. Bell and David A. Glocker

Guidewire Reproducibility and Modeling

Kenneth R. Hoffmann, Sebastian Schafer, Peter B. Noel, Vikas Singh, and Jinhui Xu

Application of Computational Biomechanics in Bioprosthetic Heart Valve Design

Wei Sun and Milton DeHerrera

Diagnostics of Human Body Cavities Using Diode Laser Gas Spectroscopy

M. Cassel-Engquist, L. Persson, K. Svanberg, and S. Svanberg

Continuous In Vivo Monitoring of a Flexible Subcutaneous Sensor in Freely Moving Diabetic Rats

Spencer Thomas and Robert Hitchcock

A Minimally Invasive Device for Continuous Glucose Monitoring in Infants

Christopher P. Erdman, Stephen M. Goldman, Patrick J. Lynn, and Matthew C. Ward

Methodologies for Performing Non-Invasive Stimulated Muscle Force Assessment in Critically Ill Patients

H. F. Ginz, P. A. Iazzo and A. Urwyler

Non-Intrusive ECG Measurement on Vehicle Steering Wheel and Driver Seat

Shan Hu, Ryan Bowlds, and Xun Yu

A Totally Implantable Hearing Device for Restoration of Hearing

Rong Z. Gan, Chenkai Dai, Don Nakmali, and Mark W. Wood

Development of an Automated Laser Debridement System for Cutaneous Injuries

J. Rastegar, H. Soroff, and R. T. Murray

Design of an Endoscope Shape Tracker to Guide Navigation in Colonoscopy

Robb M. Gavalis, Hua Xing, Peter Y. Wong, Lothar Lilge, and Caroline G. L. Cao

Development of Polymeric Nerve Guidance Conduits That Contain Anisotropic Cues Including Aligned Micorfibers and Gradients of Adsorbed Laminin-1

Jared M. Cregg, Han Bing Want, Michael E. Mulling, and Ryan J. Gilbert

Combining Shape Memory Alloys and Microfluidic Chips on Printed Circuit Boards

Saurabh Vyawahare, Suresh Sitaula, Sujitha Martin, Dvin Adalian, and Axel Schrerer

The Effect of Stent Design on the Restenosis Rate

Aswini K. Muttyam and Linxia Gu

Self-Stimulatory Behavior Detection Using Wearable Sensors for Children with Autistic Spectrum Disorder

C.-H.. Min, A. Tewfink, and A. Kelly

Progress on Clinical Trials and Product Development of a Simple, Inexpensive Feedback Device for Patients Requiring Partial Weight Bearing

Daniel Walczyk, Nathaniel Ordway, Kenneth Mann and William Ziomek

Construction of a Magnetic Biosensor for Pathogen Detection

Yuanpeng Li, Mariene Castro, Hyungsoon Im, Xiaofeng Yao, Sang-Hyun Oh, Wei-Shou Hu, and Jian-Ping Wang

Development of a Medical Device for Quantitative Physical Therapies

Hansong Zeng, Furquan Haq, Thomas Best, Sudha Argwal, Tim Butterfield, and Yi Zhao

Heart Murmur Detection/Classification System Using Cochlea-Like Pre-Processing

W. Ahmad, M. I. Hayee, Glenn Nordehn, S. Burns, and Janet L. Fitzakerley

Novel Re-Entrant Porous Composite Structure: A Potential for Orthopedic Applications

Nicolas V. Jaumard, Elizabeth A. Friis, James Smay, and Jian Xu

On Formation of Uniform Microspheres for Drug Delivery Using a Perforated Silicon Membrane: A Preliminary Study

K-. Y. Song, U. Häfeli, B. Stoeber, M. Chiao, and W. J. Zhang

Design of a Smart Inhaler System for Improved Aerosol Drug Delivery

Matthew Pausley and Stefan Seelecke

A High-Throughput In Vitro Model Illustrating Potential Microbiological Interactions During Treatment of Pseudomonas Aeruginosa Biofilm Associated Infections

Walid El-Khatib, Virginia Haynes, and Ayman Noreddin

Real-Time Drug Release Imaging From Nanocomposite Drug and Polymer Coatings

Jinping Dong, Greg Haugstad, Chris Frethem, John Foley, Bob Hoerr, Mike Matuazewski, and Judit Puskas

Methycellulose/Agarose Hydrogel System to Release Therapeutic Agents

Eric J. Minner and Ryan J. Gilbert

A Novel Approach to Drug Delivery for Hepatitis C Virus (HCV) for High Immune Responses

W. T. Chen and C. Zhang

Liver Tolerance to Repeat 90Y-Microsphere Radioembolization

Patrick McNeillie, Andrew S. Kennedy, William Dezarn, Scott L. Sailer, Mary England and Carroll Overton

Biodegradable Magnetic Nanocomposite Spheres Fabrication By O/O Emulsion/Solvent Evaporation Technique for Drug Delivery Purposes

R. Asmatulu and A. Fakhari

Neutral pH Ferrofluid Fabrication for Biomedical Applications

R. Asmatulu and A. Fakhari

Temporal Resolution Phantom: A Device and Method for Measurement of a CT Scanner's Temporal Resolution

Alexander H. Solcum, Jr., Stephen E. Jones, and Rajiv Gupta

A Robotic System for Real-Time Tumor Manipulation during Image Guided Breast Biopsy

Vishnu G. Maliaparagada, Nilanhan Sarkar, and Tarun K. Podder

A Measurement Device for Rotational Stiffness of the Eye

Thijs R. de Graaf, Sander Schutte, Hulb J. Simonsz, Arthur G. Erdman, Frans C.T. van der Helm, and Just L. Herder

Robotic Scrub Nurse for Otolaryngology

Amer Agovic, Samuel Levine, Nikolaos Papanikolopoulos, and Ahmed Tewfink

Radiographic Marking of Patient's Gravity Line on X-Ray Images

Chunhui Wu, Amir A. Mehbod, and Ensor Transfeidt

Computer Simulation of Female Urinary Incontinence

Yingchun Zhang, Gerald W. Timm, and Arthur G. Erdman

A Computational Approach to Muscle Modeling of the Human Tongue via the Finite Element Method Along with Motion Control Correlations with MRI Tracking Data for Simple Speech Patterns

Dr. Paul Buscemi, Mark Carlson, and Dr. Andrew S. Elliott

Custom TMJ Hemi-joint Fabrication Process

Joel L. Kuhlmann and Sean McEligot

A wireless, Passive Strain Sensor: Application to In Vitro Monitoring of Compressive Forces at Knee Implants

Ee Lim Tan and Keat Ghee Ong

PMMA Implants Increase Femoral Strength

Dan Dragomir-Daescu, Mark E. Bolander, Kevin E. Bennet, James T. Bronk, and Sean McEligot

Charged Modification of Hydrogel for Nerve Regeneration

Mahrokh Dadsetan, Andrew M. Knight, Catalina Vallejo, Lichun Lu, Anthony J. Windebank, and Michael J. Yaszemski

Comparison of Geometries for Diffusion-Based Extraction of Dimethyl Sulphoxide from a Cell Suspension

Katie Fleming Glass, Clara Mata, Ellen K. Longmire, and Allison Hubel

An Innovative Rapid Thermal Cycling Device for Polymerase Chain Reaction

Shadi Mahjooba and Kambiz Vfaei

Dynamic Behavior of SMA Actuated Catheter

Arun S. Veeramani, Gregory D. Buckner, Stephen B. Owen, John H. Crews, Richard C. Cook, and Gil Bolotin

A Wireless, Passive Sensor for Monitoring the Pressure of Abdominal Aortic Aneurysm Sac

Brandon D. Pereles and Keat Ghee Ong

Design of Novel Catheter Insertion Device

Erik K. Bassett and Alexander Solcum

Imaging Depth-Resolved Tissue Birefringence with a Single Detector

Muhammad K. Al-Kalsi and Taner Akkin

An Instrument to predict Fall Risk—Project StepWiz

Mats Hanson, David Meymi, Daniel Nilsson, Lars Oddsson, and Robin Rockstr

Development of Nanoporous Ultrathin Membranes for Implantable Drug Delivery

Eric E. Nuxoll, Marc A. Hillmyer, and Ronald A. Siegel

An Implantable Port for Office Laparoscopy: The AbView Access Port

Ajay M. Shah, Nathan Ball, Randy Ewoldt, Shen Kuan Ng, Benjamin Powers, Arian Fuller, Michael Sleden, Arun Anand, and Alexander Solculm

TI Low-Leakage 140nm Digital Process with Nonvolatile FRAM for Ultra-Low-Power Medical Electronics

A. Robert Landers, B. Jerry Elkind, and C. Rajni Aggarwal

A New External Fixator Design for Femoral Fracture Reduction

Michael J. Cucinotta, Courtney E. LeBlon, Nima Rahimi, and Manish Paliwal

Electromyogram-Triggered Functional Electrical Stimulation-Assisted Walking After Partial Paralysis

Anirban Dutta, Rudi Kobetic, and Ronald Triolo

Multi-Compartment Cooling/Warming Garment for Human Thermal Dynamic Research and Medical Applications

Victor S. Koscheyev, Gloria R. Leon, Joo-Young Lee, Joe M. Warpeha, and Daniel A. Saltzman

VOLUME 2 • NUMBER 1 • MARCH 2008**RESEARCH PAPERS***Testing of a Noninvasive Probe for Measurement of Blood Perfusion*

Paul S. Robinson, Elaine P. Scott, and Thomas E. Diller

Control of a Passive Mobility Assist Robot

Ji-Chui Ryu, Kaustubh Pathak, and Sunil K. Agrawal

Determining the Fatigue Life of Dental Implants

Horea T. Ilies, Dennis Flanagan, Paul T. McCullough, and Scott McQuoid

Studies on Design Optimization of Coronary Stents

K. Srinivas, T. Nakayama, M. Ohta, S. Obayashi, and T. Yamaguchi

The Diabetic Foot Load Monitor: A Portable Device for Real-Time Subject-Specific Measurements of Deep Plantar Tissue Stresses During Gait

Eran Atlas, Ziva Yizhar, and Amit Gefen

A Calibration Procedure for a Bone Loading System

Syivana Garcia-Rodríguez, Everett L Smith, and Heidi-Lynn Ploeg

A Patient-Mounted, Telerobotic Tool for CT-Guided Percutaneous Interventions

Conor J. Walsh, Nevan C. Hanumara, Alexander H. Slocum, Jo-Anne Shepard, and Rajiv Gupta

TECHNICAL BRIEFS*Measuring Luxation of Dental Implants In Vitro*

Horea T. Ilies, Dennis Flanagan, Matthew Raby, and Richard Stevenson

Novel Synthetic Total Spine Model for Mechanical Testing of Nucleus Replacement Devices

David Spenciner, Jared W. Walkenhorst, Dennis Y. Lee, and David Paller

DESIGN INNOVATION

Design Innovation Size and Shape Optimization of a 1.0mm Multifunctional Forceps-Scissors Surgical Instrument

Milton E. Aguirre and Mary Frecker

Design of and Endoscopic Dukk-Thickness Lesion Removal Device

S. McEuen, D. Tzeranis, B. Hemond, M. Dirckx, L. Lee, and A. Slocum

VOLUME 1 • NUMBER 4 • DECEMBER 2007

RESEARCH PAPERS

Compatibility of Segmenting Fluids in Continuous-Flow Microfluidic PCR

E.J. Walsh, C. King, R. Grimes, A. Gonzalez, and D. Ciobanu

An Apparatus and Protocol to Measure Shoulder Girdle Strength

Brian A Garner, Jaeho Shim, and Scott Wilson

A Coupled Fluid-Structure Model of a Therapeutic Ultrasound Angioplasty Wire Waveguide

Graham P. Gavin, Finbar Dolan, M.S. J. Hashmi, and Garrett B. McGuinness

New Modality for Maximizing Cryosurgical Killing Scope While Minimizing Mechanical Incision Trauma Using Combines Freezing-Heating System

Jing-Fu Yan, Zhong-Shan Deng, Jing Liu, and Yi-Xin Zhou

A New Medical Parallel Robot and Its Static Balancing Optimization

Simon Lessard, Pascal Bigras, and Ilian A. Bonev

TECHNICAL BRIEF

Isometric Finger Device for Assessment and Training of Force Coordination Using Virtual Reality

Gregorij Kurillo, Matjaž Mihelj, Marko Munih, and Tadej Bajd

TECHNOLOGY REVIEW

Review of US Medical Device Regulation

Jan B. Pietzsch, Lauren M. Aquino, Paul G. Yock, M. Elisabeth Paté-Cornell, and John H. Lienhan

DESIGN INNOVATION PAPER

Self-Cooling Cavity Burs for Surgical Drills

Calvin C. Silverstein

MEMORIAM

In Memoriam: Calvin C. Silverstein

Arthur G. Erdman

VOLUME 1 • NUMBER 3 • SEPTEMBER 2007

RESEARCH PAPERS

In Vitro Quantification of Guidewire Flow-Obstruction Effect in Model Coronary Stenoses for interventional Diagnostic Procedure

Koustubh D Ahtekar, Lloyd H. Beck, Saeb F Khoury, and Rupak K. Banerjee

Device for Measurement of Human Tissue Properties In Vitro

Robert L. Williams, II, Wei Ji, John N. Howell, and Robert R. Conatser, Jr.

Miniaturized Cutting Tool With Triaxial Force Sensing Capabilities for Minimally Invasive Surgery

Pietro Valdastri, Keith Houston, Arianna Menciassi, Paolo Dario, Arne Sieber, Masaru Yanagihara, and Masakatsu Fujie

Synthetic Lumbar Intervertebral Disk for Medical Education

Nicolas V. Jumard, Robert C. Richards, Susan M. Stagg-Williams, and Elizabeth A. Friis

Graphical Rendering of Localized Lumps for MIS Applications

Saeed Sokhanvar, Mohammadreza Ramezanifard, Javad Dargahi, and Muthukumaran Packirisamy

DESIGN INNOVATION PAPERS*Design of a Calibration Phantom for Measuring the Temporal Resolution of a Tomographic Imaging Device*

Alexander H. Slocum, Jr., Stephen E. Jones, and Rajiv Gupta

TECHNICAL BRIEFS*Lithography Technique for Topographical Micropatterning of Collagen-Glycosaminoglycan Membranes for Tissue Engineering Applications*

Vijayakumar Janakiraman, Biran L. Kienitz, and Harihara Baskaran

VOLUME 1 • NUMBER 2 • JUNE 2007RESEARCH PAPERS*Flexible Prosthetic Vein Valve*

Rahul D. Sathe and David N. Ku

Renal Artery Stent Bending Fatigue Analysis

H. M. Hsiao, S. Prabhu, A. Nikanorov, and M. Razavi

Measurement of Impact Loads Applied to an Implanted Drug Pump Connector in a Porcine Cadaver Specimen

Thomas C. Bischoff, Marty D. Martens, Matthew H. Adams, William J. Gallagher, and Paul A. Iaizzo

Modeling and Control Considerations for Powered Lower-Limb Orthoses: A Design Study for Assisted STS

Wesley R. Eby and Eric Kubica

General Uncertainty Analysis for Manual Wheelchair Propulsion Dynamics and Development of an Instrumented Wheel

M. Mallakzadeh and F. Sassani

Gravity-Balanced Arm Support With Energy-Free Adjustment

Wouter D. van Dorsser, Rogier Barents, Boudewijn M. Wisse, and Just L. Herder

Development of a Strain Transferring Sensor Housing for a Lumbar Spinal Fusion Detection System

J. W. Aegersold, W. P. Hnat, M. J. Voor, R. M. Puno, D. J. Jackson, J. T. Lin, K. M. Walsh, and J. F. Naber

A Theoretical and Experimental Investigation of Lateral Deformations in a Unilateral External Fixator

Kerem Ün, İbrahim D. Akçalı, and Mahir Gülşen

TECHNICAL BRIEFS*A New Methodology to Determine the Anatomical Center and Radius of Curved Joint Surfaces*

Dominik C. Meyer, Norman Espinosa, Urs Lang, and Peter P. Koch

Application of the Finite Element Technique in the Design and Evaluation of the Artificial Facets for the Lumbar Spine

Miranda N. Shaw, Vijay K. Goel, Koichi Sairyo, Jayant Jangra, Ashok Biyani, and Nabil Ebraheim

Combined Statistical and Multiscale View on Ultrasonic Liver Images for Characterization

K. Mala, V. Sadasivam, and S. Alagappan

VOLUME 1 • NUMBER 1 • MARCH 2007**RESEARCH PAPERS***Designing Strength-Proportional Hydraulic Resistance for an Elbow Flexion-Extension Exercise Machine*

Brian A. Garner

A Redundant Accelerometric Cluster for the Measurement of Translational and Angular Acceleration and Angular Velocity of the Head

Paolo Cappa, Fabrizio Patanè, and Stefano Rossi

An In Vivo Mobile Robot for Surgical Vision and Task Assistance

Mark E. Rentschler, Jason Dumpert, Stephen R. Platt, Karl Iagnemma, Dmitry Oleynikov, and Shane M. Farritor

Modeling and Design of a Piezoelectric Forceps Actuator for Meso/Micro Grasping

Ken Susanto and Bingen Yang

An Inexpensive Weight Bearing Indicator Used for Rehabilitation of Patients With Lower Extremity Injuries

Daniel F. Walczyk and John P. Bartlet

Structural and Drug Diffusion Models of Conventional and Auxetic Drug-Eluting Stents

William Jacob S. Dolla, Brian A. Fricke, and Bryan R. Becker

A Removable Precision Device for In-Vivo Mechanical Compression of Rat Tail Intervertebral Discs

Justin M. Stinnett-Donnelly, Jeffrey J. MacLean, and James C. Iatridis

Design of an Endoscopic Biopsy Needle With Flexural Members

Stacy L. Figueredo, William R. Brugge, and Alexander H. Slocum

A Fluid Actuator for Thin-Film Electrodes

Benjamin Arcand, Sudeep Shyamsunder, and Craig Friedrich

Nanoporous Alumina Membranes for Enhancing Hemodialysis

Zhongping Huang, Weiming Zhang, Jianping Yu, and Dayong Gao

TECHNICAL BRIEFS*Mechanical Properties of a Biodegradable Balloon-expandable Stent From Poly,L-lactide... for Peripheral Vascular Applications*

Niels Grabow, Carsten M. Bünger, Katrin Sternberg, Steffen Mews, Kathleen Schmohl, and Klaus-Peter Schmitz

A First-Order Mechanical Device to Model Traumatized Craniovascular Biodynamics

Sean S. Kohles, Ryan W. Mangan, Edward Stan, and James McNames

Design, Build, and Test of a Bobsled Simulator for Olympic Athletes

Mark Wacker, Arthur Erdman, Troy Nickel, and Marie Guion Johnson

**Vice Chair/Treasurer's
Report**
(H. Hamidzadeh)

Treasurer's report

April 28, 2009

Prepared by
Hamid R. Hamidzadeh
Vice Chair and Treasurer

DED Accounts:

Account #	Account name	Balance July 27, 2009	Balance March 31, 2009	Balance June 30, 2008	Comments
4-0414-XXXX	All Accounts	789,323.40	589,007.50	906,677.99	
4-0414-0000	DED Custodial	329,102.69	233,652.07	428,455.79	

Committee Accounts:

4-0414-5032	DAC	19,904.30	9,405.54	20,689.57	
4-0414-5034	M&R	16,336.53	3,020.06	22,366.28	
4-0414-5035	DFM	18,040.05	12,897.68	19,151.89	
4-0414-5036	DTM	8,301.89	2,703.94	27,128.1	
4-0414-5037	RSAFP	4,482.42	3,683.72	5,445.87	
4-0414-5038	D-EDUC	785.10	2,517.83	6,169.76	
4-0414-5041	Vibration & Sound	16,724.28	8,992.24	26,416.2	
4-0414-5042	PTG	12,161.37	9,994.39	14,775.37	
4-0414-5048	VDGN	3,609.56	1,096.91	1,752.29	
4-0414-5049	F&J	1,511.30	1,242.01	1,836.16	
4-0414-5050	MSND	13,165.55	10,819.64	29,097.96	
4-0414-5060	MNS	8,766.73	3,874.63	3,617.42	
■	MESA				

Award Accounts:

4-0414-5001	DAC COMM AWD	32,531.23	26,734.65	45,990.1	
4-0414-5002	ABBOT AWD	23,975.84	19,703.69	31,338	
4-0414-5003	DAVINCI AWD	15,854.01	13,029.06	19,261.75	
4-0414-5004	DEN. HART. AWD	45,322.65	37,246.84	41,961.94	
4-0414-5005	OUTSTD EDUC AW	7.58	7.59	7.58	CLOSED
4-0414-5006	MECH&ROB AWD	22,046.38	18,118.05	14,054.19	
4-0414-5007	MYKLESTAD AWD	28,522.21	23,439.97	21,550.28	
4-0414-5008	DTM COMM AWD	11,294.83	9,282.26	624.32	
4-0414-5009	N. YANG AWD	44,317.57	36,420.83	54,892.53	
4-0414-5053	D'ALEMBERT AWD	32,101.48	26,381.47	25,898.89	
4-0414-5054	LYAPUNOV AWD	32,075.78	26,360.36	25,867.75	
4-04145010 *	PTG AWD ■	3,000	3,000	7,466.47	
4-04145011 *	M&R best pap AWD ■	14,306.12	14,306.12	9,081.55	
4-04145012 *	MNS AWD ■	3,075.95	3,075.95	1,779.97	
4-04145061	DAC Young Investigator AWD ■	15,000	15,000		
4-04145062	DTM Best Paper AWD ■	10,000	10,000		
4-04145063	MNS Innovator AWD ■	3,000	3,000		

* Established in August 2007

■ Information not available (data from April 2009 Report)

Other Report items:

- 1- **2008 IMECE:** Revenue of about \$10,000.00 from the 2008 IMECE is expected. The exact amount is to be determined and will be allocated to the DED for its technical paper sessions held during this event. A Request will be forward to the ASME to transfer this amount to the DED custodial account.

Previously Reported on April 28, 2009

- 1- **2008 IDETC Conference:** The surplus from the 2008 IDETC conference was \$82,985.19. DED custodial account will receive \$31,096.24, and the DED Technical Committees will receive \$31,096.24 based on the number of papers (shown in attachment I). The funds have not been yet allocated into the accounts. TC chairs were asked to confirm the number of papers of the conferences sponsored by their committees.
- 2- **Award Matching:** Attachment II shows the award matching approved by DED on December 4, 2008. The funds have been already allocated to the committee accounts. TC chairs were asked to verify the amount and confirm the allocation of the fund. Three new awards were established as shown in Attachment II. The three new awards and their account numbers are DAC Young Investigator Award (4-04145061), DTM Best Paper Award (4-04145062), and MNS Innovator Award (4-04145063). The new award accounts still do not show with other DED accounts.
- 3- **Triodyne Safety Award Accounts:** On March 6, 2005, Design Engineering Division approved the elevation of its Triodyne Award to society level. The balance of the accounts of the Triodyne Safety Award (Ralph Barnet-Carl Uzgiris Product Design Safety Award) given for outstanding contributions to teaching or research in the safety aspects of mechanical design, was approximately \$65K (more than the \$40K required for the elevation to a society award) in 2005. There has been communications that involved several people regarding the status of this award. As of May 31, 2008, the Triodyne Corporation Award has the two accounts 6-00301570 (\$59978.00) and 6-00401570 (\$25000.00).
- 4- **Newsletter Cost:** The cost of producing the newsletter last year was \$11506.34 (\$525 for design and produce a digital file for the web; and \$10,981.34 for printing).

5- Unresolved Issues

Issue	Comments	Status/ actions
The account information for the following six awards: PTG, M &R Best Paper, and MNS, DAC Young Investigator, DTM Best Paper, and MNS Innovator are not listed with the other DED accounts.	These awards were established a while ago and accounts were assigned to them.	An E-mail requesting information was sent to Ms. LaShion Pettiford regarding the status of these accounts.

Reported in April 28, 2009		
Issue	Comments	Status/ actions
The accounts of the three awards PTG, M &R Best Paper, and MNS established in August 2007 are not listed with other DED accounts.	These awards were established a while ago and accounts were assigned to them.	An E-mail was sent to Richard Ulvila regarding the status of these accounts.
The three awards established in 2008 (DAC Young Investigator Award, DTM Best Paper Award, and MNS Innovator Award) are not listed with other DED accounts.	These awards were also assigned account numbers	An E-mail was sent to Richard Ulvila regarding the status of these award accounts.
IDETC 2008 revenue allocation to DED accounts.	This revenue has not been distributed yet to the committee and the DED custodial accounts.	On March 23, 2009, Erin Dolan confirmed that the request for the fund allocation was forwarded to the ASME Finance Department.
Revenues of the 2008 IMECE	No information was provided to DED on its revenue share and the allocation of the fund.	Requests were sent to ASME to obtain this information.
Status of the Ralph Barnet-Carl Uzgis Product Design Safety Award	No new information was received from ASME regarding the status of this award.	See Vice Chair and Treasurer Report, April 28, 2009.

ATTACHMENT I**IDETC 2008 Revenue
Reported April 2009**

2008 Summary			Account #
Total Revenue: \$344,251.16			
Total Expenses: \$261,265.97			
Surplus: \$82,985.19			
Total Number of Papers 647			
	Papers		
Total Revenue		\$82,985.19	
DAC = 119 papers (18%)	119	\$ 7364.10	4-0414-5032
MR = 163 papers (25%)	163	\$ 10,086.94	4-0414-5034
CIE = 168 papers (26%)	168	\$ 10,396.35	
DTM = 47 papers (7%) [adjust by 1.5 factor]	70.5	\$ 4,362.76	4-0414-5036
DFMLC = 33 papers (5%)	33	\$ 2,042.14	4-0414-5035
DEC = 28 papers (4%)	28	\$ 1,732.73	4-0414-5038
MNS= 57 papers (9%)	57	\$3,527.34	4-0414-5060
AVTT= 32 papers (5%)	32	\$1,980.26	4-0414-5048
Total	670.5		
CIE Division	168	\$20,792.71	CIE Div Account
IDETC	502.5	\$ 62,192.48	
Design Custodial Account		\$ 31,096.24	4-0414-0000
Total pushdown to DED committees		\$ 31,096.24	

ATTACHMENT II**DED Requested Fund Transfer**

Yet to be Approved

No.	Committee	From Account	To Account	Amount	Comments
1	D-EDUC	4-0414-0000	4-0414-5038	4,250.00	Information for transfer of the amount was forwarded to the ASME
2	MESA	4-0414-0000	*****	2,000.00	Request was forwarded to Ms. LaShion Pettiford, on 7/31/2009
3	Broadening Participation	4-0414-0000	*****	10,000.00	Allocation of this amount was requested. Further inquire may be needed.

DED Requested Fund Transfer

Approved on December 4, 2008

Reported April 2009

No.	Committee	From Account	To Account	Amount	Comments
1	MSND	4-0414-5050 4-0414-0000	4-0414-5054 4-0414-5054	\$5000 \$5000	Total of \$10,000 transferred from the MSND and DED accounts to the Lyapunov Award account.
2	MSND	4-0414-5050 4-0414-0000	4-0414-5053 4-0414-5053	\$5000 \$5000	Total of \$10,000 transferred from the MSND and DED accounts to the D'Alembert Award account.
3	DAC	4-0414-5032 4-0414-0000	Establish a new award account	\$5000 \$5000	Total of \$10,000 transferred from the DAC and DED accounts to the new DAC Young Investigator Award.
4	DTM	4-0414-5036 4-0414-0000	4-0414-5008 4-0414-5008	\$5000 \$5000	Total of \$10,000 transferred from the DTM and DED accounts to the DTM Committee Award.
5	DTM	4-0414-5036 4-0414-0000	Establish a new award account	\$5000 \$5000	Total of \$10,000 transferred from the DTM and DED accounts to the DTM Best Paper Award account.
6	M&R	4-0414-5034 4-0414-0000	4-0414-5006 4-0414-5006	\$5000 \$5000	Total of \$10,000 transferred from the MR and DED accounts to the MR Award.
7	M & R	4-0414-5034 4-0414-0000	4-04145011 4-04145011	\$5000 \$5000	Total of \$10,000 transferred from the MR and DED accounts to the MR Best Paper Award.
8	TCVS	4-0414-5041 4-0414-0000	4-0414-5004 4-0414-5004	\$5000 \$5000	Total of \$10,000 transferred from the TCVS and DED accounts to the TCVS Den Hartog Award.
9	TCVS	4-0414-5041 4-0414-0000	4-0414-5007 4-0414-5007	\$5000 \$5000	Total of \$10,000 transferred from the TCVS and DED accounts to the TCVS Myklestad Award.
10	MNS	4-0414-5060 4-0414-0000	4-04145012 4-04145012	\$1500 \$1500	Total of \$3,000 transferred from the MNS and DED accounts to the MNS Best Paper Award (This award account is not listed on the web).
11	MNS	4-0414-5060 4-0414-0000	Establish a new award account	\$1500 \$1500	Total of \$3,000 transferred from the MNS and DED accounts to the MNS Innovator Award.
12	MNS	4-0414-0000	4-0414-5060	\$5000	DED approved on December 4, 2008 the transfer of this fund to the MNS account.
Total for DED:				\$53,000	

Total for Committees:	\$48,000	
-----------------------	----------	--

IDETC Report

(V. Kumar)

IDETC REPORT
DED Executive Committee Meeting
San Diego, CA
September 1, 2009

STATUS OF IDETC CONFERENCES

Attached, please find the progress reports for the 2009, 2010, 2011 and 2012 IDETC/CIEs respectively. All conferences appear to be on track with their planning and their required processes.

- 2010 IDETC/CIE, Montreal, August 15-18, 2010
Pierre Larochelle, Conference Chair
Andrew Murray, Program Chair
- 2011 IDETC/CIE, Washington DC, August 28-31, 2011
Nader Jalili, Conference Chair
Olivier Bauchau and Bogdan Epureanu, Program Chairs
- 2012 IDETC/CIE, Chicago, Dates TBD
Michael Stanišić and James P. Schmiedeler, Conference Chairs
Program Chairs TBD

A special session on “Future IDETC/CIE Conference Leadership Training” is being organized by Hamid Hamidzadeh. IDETC executive member and conference chairs for the 2009 and 2010 IDETC will be present to help lead the discussion

FUTURE CONFERENCES

1. The IDETC is becoming too big in terms of number of tracks. There are too many sessions and conferences in parallel. This detracts from the quality of the conference and makes it impractical to find venues. The DTM conference is single track but all other conferences are multi-track. Conference chairs should be encouraged to minimize the number of tracks. Strong consideration should be given to reducing the duration of paper presentations to 15 or 20 minutes.
2. There is too much pressure on conference organizers to ensure the conference is profitable. It should be made clear that the quality of the conference and the conference experience gets the highest priority.
3. A new document on “ASME Conference Guideline” listing the step-by-step process and the required document and forms has been developed.
4. Future IDETC Chairs are expected to complete the CAI form before making hotel contract. The CAI form must be completed at least two years prior to the commencing date of the conference.

Respectfully Submitted

Vijay Kumar
Incoming IDETC Executive Member

Hamid R. Hamidzadeh
Outgoing IDETC Executive Member

Standing/Special Committee Reports

REPORT TO DED EXECUTIVE COMMITTEE

TO: WEI CHEN, SECRETARY, DED EXECUTIVE COMMITTEE
FROM: LINDA SCHMIDT, CONSTITUTION AND BYLAWS STANDING COMMITTEE
SUBJECT: REPORT OF ACTIVITIES
DATE: AUGUST 6, 2009

The Executive Committee constitution and bylaws have undergone changes in the past few years and a thorough updating of the documents was performed during past couple of years. The proposed, revised, document "Constitution Bylaws and Operating Procedures of the Executive Committee, Design Engineering Division" was emailed to the DED Advisory Committee Members for comment on October 16, 2008 by past chair, Kazem Kazerounian. No additional comments or changes were received.

The newly revised and updated document "Constitution Bylaws and Operating Procedures of the Executive Committee, Design Engineering Division" was voted on by the General Committee and a report given at the December meeting of the Executive Committee. The DED Executive Committee Meeting in December 4, 2008, was held by teleconference. It was announced at that meeting that the new constitution, bylaws and operating procedures were approved.

The remaining action is to see that the new document is posted in the appropriate place on the ASME website.

GOVERNMENT RELATIONS REPORT
ASME DESIGN ENGINEERING DIVISION
JULY 2009

Prepared by:
Irem Y. Tumer
DED Government Relations Chair
Oregon State University

NASA:

NASA announced in May 2009 an \$18.69 billion budget for fiscal year 2010 to advance Earth science, complete the International Space Station, explore the solar system and conduct aeronautics research. The budget request represents an increase of \$903.6 million, or 5 percent, above funding provided in the fiscal year 2009 Omnibus Appropriations Act. All totaled, an additional \$2 billion has been added to NASA's 2009 and 2010 budgets under the Obama administration.

Shortly after this announcement, in June 2009, in a move that reflects the uncertainty surrounding NASA's current strategy for replacing the space shuttle and returning astronauts to the Moon by 2020, House appropriators slashed by 16 percent the space agency's \$4 billion request for manned space exploration in 2010. The proposed legislation, marked up June 4 by the House Appropriations commerce, justice, science subcommittee, trims \$483 million overall from U.S. President Barack Obama's \$18.7 billion budget request for NASA next year. The \$670 million cut to the 2010 manned exploration request would leave \$3.21 billion, which is less than is available for the effort this year.

NASA's fiscal year 2010 request funds a robust program to continue the agency's missions of exploration and research. It supports the administration's commitment to deploy a global climate change research and monitoring system. It funds a strong program of space exploration involving humans and robots with the goal of returning Americans to the moon and exploring other destinations. And it supports the safe flight of the space shuttle to complete assembly of the International Space Station by the shuttle's planned retirement.

Funds freed by the shuttle's retirement will support development of systems to deliver people and cargo to the station, the moon and other destinations. As part of the effort, NASA will invest in private-sector development and the demonstration of vehicles to support the agency's human crew and cargo spaceflight requirements.

With the fiscal year 2010 budget request, NASA will advance global climate change research. NASA's investment in Earth science research satellites,

airborne sensors, computer models and analysis has revolutionized scientific knowledge and predictions of climate change and its effects. Using the National Research Council's recommended priorities for space-based Earth science research, NASA will develop new sensors to support the administration's goal of deploying a global climate research and monitoring system.

The budget request also renews NASA's commitment to aeronautics research to address aviation safety, air traffic control, noise and emissions reduction, and fuel efficiency. And NASA's diverse portfolio of science, technology, engineering and mathematics educational activities is aligned with the administration's goal of improving American innovation and global competitiveness.

In addition to funds provided in within the Education account, each mission directorate utilizes funding for education activities. However, NASA has been unable to provide an adequate, full accounting of those activities Agency-wide, therefore it is impossible for the Committee to know the extent and value of the Agency's science, technology, engineering, and mathematics [STEM] education efforts. The Committee therefore directs NASA to include in its annual budget justifications the amount within each mission directorate that will be expended for education activities and the specific purposes for which those funds will be expended. These include: "Space Grant Program.--The Committee provides the full budget request of \$28,400,000 for the Space Grant program, and encourages NASA to work to achieve greater participation of underserved students; "Classroom of the Future- The Committee has provided the full budget request of \$1,000,000 for the Classroom of the Future, which focuses on educational research, curriculum design, teacher development and educational outreach in the STEM disciplines.

NSF:

The American Recovery and Reinvestment Act of 2009 (Recovery Act) was signed into law by President Obama on February 17th, 2009. The Act is an extraordinary response to a crisis unlike any since the Great Depression, and includes measures to modernize our nation's infrastructure, enhance energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. The Recovery Act provides \$3 billion for the National Science Foundation, recognizing the enormous potential that investments in scientific research have to stimulate innovation and economic growth. NSF released plans for allocating Recovery funds; please read about these plans at <http://nsf.gov/pubs/issuances/in131.pdf>.

The Recovery Act also specifically allocates \$500 million to support the Major

Research Instrumentation (MRI) and Academic Research Infrastructure (ARI) programs. The MRI solicitation will seek research instrumentation proposals and the ARI solicitation will provide funding opportunities to modernize existing research facilities, including upgrading existing campus-based cyberinfrastructure and its connectivity to regional and national broadband networks.

In response to this landmark legislation, NSF has developed policies, procedures, and Frequently Asked Questions for use by the awardee community. These documents provide up-to-date information regarding NSF's implementation of the Recovery Act, and are available at www.nsf.gov/recovery. The key elements of NSF's implementation of the Recovery Act are highlighted below.

The Recovery Act supplements NSF fiscal year 2009 funding by \$3.0 billion. NSF currently has many highly rated proposals that it has not been able to fund. For this reason, NSF is planning to use the majority of the \$2 billion available in Research and Related Activities for proposals that are already in house and will be reviewed and/or awarded prior to September 30, 2009. The Foundation also expects to expeditiously award funds as specified in the Recovery Act for: the Math and Science Partnership program (funded at \$25 million); the Robert Noyce Teacher Scholarship Program (funded at \$60 million); and the Science Masters program, (funded at \$15 million).

DOE:

The American Economic Recovery and Reinvestment Act, which has millions of dollars for renewable energy and other clean energy tech projects, emphasized less developed and less mature utility power technologies such as solar and geothermal. It included \$32 million specifically targeted for the industry to enhance existing hydropower infrastructure but not for emerging technologies; however research institutes may apply for specific general funding in the stimulus through grants to conduct research and development. In comparison, President Barack Obama announced in June that more than US \$467 million from the Stimulus package will be allocated to expand development, deployment and use of geothermal (\$350 million) and solar energy (\$117 million) throughout the U.S. Part of the lesser funding for hydropower is associated with the land regulatory issue, while the point of the stimulus is of course to stimulate the economy. The president's motivation was also to prevent a double-dip recession and ensure long-term economic growth. Funding for less-developed technologies such as solar, which can be inserted virtually anywhere in the country with minimal environmental impact once the costs are competitive, has the potential to create more (Green) jobs and germinate a brand-new supply chain.

In addition, the DOE budget this year includes money for conventional hydropower, such as power plants attached to dams and pumped storage, where water is pumped from a lower reservoir to a higher reservoir to meet anticipated peaks in electricity demand. Furthermore, the 2009 budget is supposed to fund efforts to assess the current state of U.S. hydroelectric infrastructure and highlight opportunities for more efficient power generation at existing grid-connected stations.

A portion of the 2010 Obama administration budget for the DOE is planned to support ocean-based power, such as technologies that harness energy from tides and waves, which would be particularly valuable for densely populated cities along the coast less prone to current transmission and grid complications. The DOE is focused on using the money to reduce barriers in the development and deployment of these technologies and projects such as more accurate ways to assess water-power potential. Funding will also be utilized for environmental studies and integrated national marine renewable energy centers that evaluate the impact of power stations on nature.

Numerous U.S. states have increased their emphasis on renewable energy such as solar by approving mandates that a designated percentage of power generated for the state must be from a clean energy source, as opposed to conventional fossil fuels or nuclear, which generates radioactive waste that is difficult to contain and store.

Additional initiatives:

Clean Coal Power Initiative: The U.S. Department of Energy issued an amendment to the Funding Opportunity Announcement for Round 3 of the Clean Coal Power Initiative. The amendment, which was issued on June 9, 2009, incorporates special provisions of the American Recovery and Reinvestment Act of 2009. DOE anticipates making multiple awards under this FOA and may be able to provide up to \$1.4 billion to be distributed among projects selected under both the previous closing date of January 20, 2009 and the new closing date of August 24, 2009. Of the total amount, approximately \$800 million in DOE funding is being made available under the Recovery Act. The projects will be cost-shared, with the award recipient(s) providing at least 50 percent of funds for the project. The funding opportunity contemplates cooperative agreements between the Government and industry to demonstrate at commercial scale new technologies that capture carbon dioxide emissions from coal-fired power plants and either sequester the CO₂ or put it to beneficial use. The Act will be used to expand and accelerate the commercial deployment of carbon capture and storage (CCS) technology. The funding is part of the Obama Administration's ongoing effort to develop technologies to reduce the emission of carbon dioxide,

a major greenhouse gas and contributor to global climate change, into the atmosphere while creating new jobs, supporting the following initiatives: Clean Coal Power Initiative, Industrial Carbon Capture and Storage, Geologic Sequestration Site Characterization, Geologic Sequestration Training and Research.

Biofuels Initiative: The U.S. Department of Energy (DOE) announced the availability of up to \$85 million from the American Recovery and Reinvestment Act for the development of algae-based biofuels and advanced, infrastructure-compatible biofuels. DOE is seeking to bring together leading scientists and engineers from universities, private industry, and government to develop new methods to bring new biofuels to market in an accelerated timeframe. The partnerships will enable cross-fertilization between multiple disciplines and provide the breadth of expertise necessary to develop new technologies advanced biofuels that can be used in today's fueling infrastructure such as green aviation fuels, green gasoline, and green diesel from a variety of biomass feedstocks. Partnerships may include leading scientists and engineers from universities, private industry, and government, and engage end users and other field experts such as utility specialists and aquaculturists. Effective collaborations will target an accelerated timeframe to bring new biofuels to market. DOE expects to select two to three partnerships and fund projects over three years. Funding Opportunity Announcement targets two crucial areas: Algal Biofuels R&D, Advanced, Infrastructure-Compatible Biofuels R&D.

DOD:

The Department of Defense (DoD) announced in May 2009 plans to award 69 academic institutions \$260 million over the next five years to perform multidisciplinary basic research. Awards are subject to the successful completion of negotiations between the academic institutions and the DoD research offices that will make the awards: the Army Research Office (ARO), the Office of Naval Research (ONR), and the Air Force Office of Scientific Research (AFOSR).

The awards are the result of the fiscal 2009 competition that ARO, ONR, and AFOSR conducted under the DoD Multidisciplinary University Research Initiative (MURI) program. The MURI program supports research by teams of investigators that intersect more than one traditional science and engineering discipline in order to accelerate both research progress and transition of research results to application. Most MURI efforts involve researchers from multiple academic institutions and academic departments. Based on the proposals selected in the fiscal 2009 competition, a total of 69 academic institutions are expected to participate in 41 research efforts.

The MURI program complements other DoD basic research programs that support traditional, single-investigator university research by supporting multidisciplinary teams with larger and longer awards. The awards are for a five-year period subject to availability of appropriations and satisfactory research progress. Consequently, MURI awards can provide greater sustained support than single-investigator awards for the education and training of students pursuing advanced degrees in science and engineering fields critical to the DoD, as well as for associated infrastructure such as research instrumentation. The MURI program is highly competitive. ARO, ONR, and AFOSR solicited proposals in 32 topics important to the DoD and received a total of 152 proposals.

In addition, the Department of Defense (DoD) SBIR and STTR programs fund a billion dollars each year in early-stage R&D projects at small technology companies -- projects that serve a DoD need and have commercial applications. The SBIR Program provides up to \$850,000 in early-stage R&D funding directly to small technology companies (or individual entrepreneurs who form a company). The STTR Program provides up to \$850,000 in early-stage R&D funding directly to small companies working cooperatively with researchers at universities and other research institutions.

Furthermore, the Defense Advanced Research Projects Agency (DARPA) has released a research announcement, RA 09-14, on the [Young Faculty Award](#) (YFA) program, aimed at identifying and engaging junior faculty in academia and exposing them to Department of Defense needs and DARPA's program development process. The YFA program will provide high-impact funding to these faculty early in their careers in order to develop their research ideas in the context of Defense needs. DARPA's long-term goal for this program is to develop the next generation of academic scientists, engineers, and mathematicians in key disciplines who will focus a significant portion of their career on Department of Defense and National Security issues. The newly issued announcement solicits single investigator proposals for research and development in physical sciences, engineering and mathematics of interest to DARPA's [Microsystems Technology Office](#) and [Defense Sciences Office](#). Proposed research should focus on innovations that will enable revolutionary advances; high-risk/high-payoff ideas are strongly encouraged. The announcement contains detailed descriptions of the agency's interest areas. DARPA's YFA program targets untenured faculty within six years of appointment to a tenure-track position at a U.S. institution, emphasizing those without significant prior or existing DARPA funding as a performer. Awards will fund two years of research for a single investigator and will be less than \$300,000.

Finally, the Department of Defense (DoD) has released the FY 2009 Defense University Research Instrumentation Program (DURIP), a part of the University

Research Initiative (URI). DURIP is designed to improve the capabilities of U.S. institutions of higher education (hereafter referred to as “universities”) to conduct research and to educate scientists and engineers in areas important to national defense, by providing funds for the acquisition of research equipment. A central purpose of the DURIP is to provide equipment to enhance research-related education. Therefore proposals must address the impact of the equipment on the institution’s ability to educate students, through research, in disciplines important to DoD missions. This announcement seeks proposals to purchase instrumentation in support of research areas of interest to the DoD, including areas of research supported by the administering agencies. With very few exceptions, a DURIP award will provide between \$50,000 and \$1,000,000 of DoD funding for the acquisition of instrumentation.

The research areas of interest for the administering agencies are available on-line at the following addresses: Army Research Office: <http://www.aro.army.mil/> (select “For the Researcher” and then “Funding Opportunities”. See BAA W911NF-07-R-0003.); Office of Naval Research: <http://www.onr.navy.mil/> (select “ONR Science and Technology Departments”. Refer questions about appropriate program managers to contact to Dr. Bill Lukens, 703-696-4668). Air Force Office of Scientific Research: <http://www.afosr.af.mil/> (select “Research Areas”). For detailed information regarding technical goals, potential proposers are advised to refer to the announcements cited above and may contact DoD program managers listed therein to explore mutual interest before submitting proposals. A proposal may be submitted to more than one agency; however, only one award will be given.

DOT:

The Department of Transportation received a total of \$48.1 billion, of which \$38.6 billion was distributed through existing funding programs. Highway formulas will be used to distribute \$27.5 billion, \$8.4 billion through transit programs, \$1.3 billion through aviation programs, \$1.3 billion to Amtrak, and \$100 million in grants to shipyards. While these funds are distributed using methods that were already in place before the Recovery Act, the Act also subjects many of them to “use or lose” provisions that ensure recipients spend funds, put people to work and contribute to our economic recovery quickly.

The Department’s broad recovery goals reflect those of the Recovery Act, primarily (1) creating and preserving jobs and promoting economic recovery and (2) investing in infrastructure that has long-term economic benefits. The former goal requires the Department to spend Recovery Act funds quickly on projects that will contribute to the Federal government’s larger efforts to promote

economic recovery. The latter goal requires the Department to invest Recovery Act funds in projects that provide long-term benefits for the Nation's transportation systems.

The transportation programs funded by the Recovery Act are consistent with these broad goals. A significant amount of the Department's Recovery Act funding is provided to State and local transportation authorities through existing program structures, which helps ensure that these funds will be used for "shovel ready" projects to create and preserve jobs as quickly as possible.

Much of this funding is distributed directly to the States, who will determine how it is spent on eligible projects. Therefore, achievement of the Department's goals and the goals of the Recovery Act relies heavily on prudent and strategic decisions made at the State and local levels. DOT will monitor the States' investment decisions, and while the Administration has publicly expressed its policy preferences in a variety of forums, it does not have authority to override decisions made by the States.

The Recovery Act also created new programs that reflect the intent of both Congress and the Administration to create long-term economic benefits by investing in a transportation network that can keep us competitive in the 21st century. The Recovery Act includes \$8 billion to jumpstart high-speed and intercity rail programs in the United States. This investment is not likely to provide the immediate economic recovery benefits that could be achieved through investments in existing highways and transit systems, but it represents a down payment for our efforts to transform travel in the United States and helps ensure that we reap benefits from our transportation systems for years to come. President Obama has also proposed to budget \$1 billion in each of the next five years, in addition to the Recovery Act's \$8 billion investment, to ensure that the Federal commitment to high-speed rail continues.

Honors & Awards Committee
G. M. Fadel, Chair
Design Engineering Division -ASME

Report for meeting of August 29, 2009
San Diego, CA

1. This year, the committees that judged the awards were:

Machine Design Award

Alan Parkinson, Crispin Hales, Art Erdman, Jeffrey Ge, Gordon Kirk and Georges Fadel

Alan Parkinson must be replaced this year. Next June, we will need three new members to replace

Crispin Hales, Art Erdman and Jeff Ge. Gordon Kirk will serve until 2011.

Ruth & Joel Spira Outstanding Educator Award

Mike Keefe, Art Erdman, Gul Kremer, Alan Parkinson, Alexander Slocum, Georges Fadel

Note that the EC appointed Mike Keefe to replace Clive Dym. Does he have to be approved by the exec committee? The Spira award committee consists of 3 EC members (Keefe, Kremer and Slocum) and 3 DED members. Alan Parkinson served until June 2009 and has to be replaced.

Erdman and Slocum serve until 2010.

Leonardo DaVinci Award

Alan Parkinson, Crispin Hales, Art Erdman, Jeffrey Ge, Gordon Kirk and Georges Fadel

Alan Parkinson must be replaced this year. Next June, we will need three new members to replace

Crispin Hales, Art Erdman and Jeff Ge. Gordon Kirk will serve until 2011.

Barnett-Uzgiris Product Safety Award

Alan Parkinson, Crispin Hales, Art Erdman, Jeffrey Ge, Gordon Kirk and Georges Fadel

Since this award was set up in 2008, ASME says the terms of the committee members starts in 2008. However, we want some staggering of the dates, so we should appoint three members this year, and three next year.

Robert E. Abbott Award

Boddy Clark, Judy Vance, Georges Fadel (appointed as needed by DED chair)

2. The job of the H&A Committee is to select qualified candidates who meet the qualifications for the three awards. This year there were nominations for:
 - Machine Design Award – Selection is: J. Michael McCarthy
 - DaVinci Award – Selection is: S.V. Sreenivasan
 - Robert E. Abbot Award – Dan Segalman
3. We need more qualified nominations for all the awards, so we are hereby soliciting nominations – These are due February 1 every year. Nomination packets are carried over automatically for 3 years and then removed from consideration, unless renewed by the nominator.
4. I put all the awards certificates information on a spreadsheet to ensure completeness. Thank you all for your patience and help. I plan eventually to move this to the web to facilitate interaction.

G. M. Fadel, Chair
DED Honors & Awards Committee
July 16, 2009

Nominating Committee Report

Judy M. Vance

Iowa State University

April 28, 2009

Nominating Committee

In early December 2008, Kazem appointed members of the Nominating Committee consisting of Shapour Azarm, J. Michael McCarthy, Chris Rahn and myself (as chair). A call for nominations was prepared and distributed in mid December to the members of the DED General Committee, past chairs of all technical committees, and past DED Executive Committee Chairs (who have remained active) in accordance with the Division Bylaws procedures. Three positions were open this year: Secretary of the DED Executive Committee, DED Honors and Awards Committee Chair, and DED Publications Committee Chair. The committee examined the qualifications of the nominees and prepared a slate of candidates for voting. Krish Gupta agreed to act as vote teller again this year. The slate was turned over to Krish to conduct the elections. The following people were elected:

DED Secretary: Wei Chen, Northwestern University

Six year commitment beginning July 1, 2009, proceeding through subsequent positions in the Executive Committee

DED Publications Committee Chair: Kurt Anderson, Rensselaer Polytechnic Institute

Three year term beginning July 1, 2009, renewable for a second three year term

DED Honors and Awards Committee Chair: Georges Fadel, Clemson University

Three year term beginning July 1, 2009, renewable for a second three year term

I want to thank Krish and the members of the Nominating Committee for their excellent service.

ASME Design Engineering Division General Committee Meeting
September 1, 2009

US Council for the Theory of Machines and Mechanisms (USToMM)
H. Lipkin

OLD BUSINESS

- 1) No old business.

NEW BUSINESS

- 1) This year is the 40th anniversary of IFToMM since its founding in 1969. During the past 40 years IFToMM has achieved worldwide significance and influence in the community of mechanical engineering both in the development of Mechanism and Machine Science and in facilitating collaboration among colleagues from different countries/territories. The event was recognized with a celebration during the meeting of the Executive Council in Guanajuato, Mexico, on June 24 and 25.
- 2) From July 1, 2008 to September 1, 2009 IFToMM has sponsored or co-sponsored 20 conferences, symposia, and workshops. Currently there are plans for 10 such upcoming events. Specific details are at <http://iftomm.org>.
- 3) The next quadrennial IFToMM World Congress is on June 19-25, 2011 at UCEA- Universidad de Guanajuato in Guanajuato Mexico. Papers are due October 1, 2010. Details are at <http://www.iftomm2011.org>.
- 4) The IFToMM Technical Committee on Multibody Dynamics had only one member from the United States, Ahmed Shabana. Based on his recommendation the US IFToMM representative (H. Lipkin) nominated Kurt Anderson of RPI as the second technical member from the US with Olivier Bauchau of Georgia Tech nominated as an observer. The Multibody Dynamics chair, Javier Cuadrado, accepted the nominations.

Kurt Anderson has finished his tenure as the ASME Multibody Systems and Nonlinear Dynamics chair and Olivier Bauchau will start his tenure in that role in two years. It is tentatively planned that when Olivier Bauchau finishes his MSND chair he will replace Ahmed Shabana on the IFToMM Technical Committee on Multibody Dynamics.

- 5) We briefly note the passing of one of the founding members of IFToMM. Jack Phillips of the University of Sydney died peacefully from a long illness on January 11, 2009. He is best remembered for reintroducing Screw Theory to modern kinematicians during the early 1960's in collaboration with his Australian colleague Kenneth H. Hunt. He authored a two volume opus on screw theory, *Freedom in Machinery*, Volume 1: Introduction to Screw Theory, Volume 2: Screw Theory Exemplified followed by the comprehensive *General Spatial Involute Gearing*. He received IFToMM Honorary Membership in 1999 and the Lifetime Service Award in 2004. A memoriam appears in *Mechanism and Machine Theory* vol. 44, pp.1095–1096, (2009).
- 6) The current year subscription fee (dues) to IFToMM is currently due.

Report on the Design Society
Written for the ASME Design Engineering Division
July, 2009

The Design Society is an international non-governmental, non-profit organisation focused on design research, design practice, and design education. The Design Society concentrates on activities that transcend national boundaries, and, where possible, will seek to complement national activities. The initiatives, themes, issues and questions addressed by the Design Society are discussed and disseminated through its conferences and workshops, along with their associated publications.

The goals of the Design Society are to contribute to a broad and established understanding of design, and to promote the use of knowledge about design for the good of humanity.

It aims to

- enhance and rationalise engineering design through design science
- develop and promote a common understanding of design activities
- support its members in consolidating, focusing and establishing theory and research methodology
- support the creation and development of a formal body of knowledge about design
- support the evaluation of research results and their implementation in education and industry
- promote interdisciplinary work in design and co-operation among researchers, managers, educators and practitioners

The Design Society was constituted in March of 2000. It builds on prior work of the International Society of Design Science, WDK. Founded in the early 1980's, WDK was an informally constituted international society based on a common interest in engineering design.

At this point, the Design Society has two primary objectives; to establish services that it can provide to its members, and to develop an effective infrastructure for delivering these services. Each year, the Society runs a major design conference. In the odd years, it holds the ICED Conferences (International Conference on Engineering Design) and in the even years it holds the DESIGN conferences.

As these notes are reviewed in September, the Design Society's International Conference on Engineering Design will just have been completed at Stanford University. It is our hope that many of the people from countries around the world who regularly attend the ICED meetings will have stayed for the extra week to attend the ASME Design Conferences. Through the literature sent to ICED'09 conference participants, the Design Society has encouraged them to do so. This year, the conferences have been scheduled during adjacent weeks in geographic proximity. For ICED'07, the conferences were also held during adjacent weeks, but on opposite sides of the world – Paris and Las Vegas. This created the unfortunate situation in which people are forced to decide which to attend. The Board of Management of the Design Society would like to find ways to exchange information about tentative dates for the two conferences in subsequent years

so that such scheduling problems can be avoided. The Design Society has always scheduled the ICED meetings during the third or fourth week of August. The times for the ASME Design Conferences have varied much more widely, from mid August to late September. In the past, the Design Society has tried without success to coordinate with the ASME to look for ways to avoid scheduling conflicts, but we have been unable to get information about ASME meeting dates. I encourage the members of the Executive Committee to find a way to communicate the meeting dates for the ASME IDETC in advance so that the ICED meetings can be scheduled accordingly.

The Design Society sponsors an array of design-related meetings each year. On the tenth and eleventh of September, the Engineering and Product Design Education Conference will be held at the University of Brighton in the UK. On the 30th and 31st of October, the Workshop on Applied Engineering Design Science will be held in Pilsen in the Czech Republic. The DESIGN 2010 Conference will be held from the 17th to the 20th of May, 2010, in Dubrovnik, Croatia.

Publicity and Newsletter

Jeremy Michalek ASME DED Publicity and Newsletter Chair

The 2009 newsletter was completed in early June and submitted to ASME for formatting and printing. The wiki edition of the newsletter, which contains full length articles and is open for any member to edit, is available at http://ddl.me.cmu.edu/ddwiki/index.php/ASME_DED_Newsletter. As of filing this report, I do not yet have final numbers on cost for printing and mailing. Last year we mailed the newsletter to 20,000 domestic and 3000 international readers, and we printed around 500 additional copies for the IDETC conference. The net cost was about \$6000 plus postage.

Design Engineering Division

Annual Newsletter

Jeremy J. Michalek, Editor • Summer 2009



Message from the Chair • *Ahmed Shabana, Design Engineering Division Chair*

The Design Engineering Division (DED), established in 1945, is one of the largest and most active divisions of the American Society of Mechanical Engineers (ASME). DED has the vision of “covering the art, science, and application of design engineering and to facilitate transfer of design engineering technology between industry, academes and government through programs and publications.” Guided by this vision, DED has the mission to “develop, promote, encourage, and support its members and technical committees in their quest for technical excellence and professional success in their respective fields. DED provides the necessary processes and mechanisms to span new initiatives and identify emerging technologies through technical meetings, publications, and member interest activities.”

DED publications, conferences and activities are sponsored by its dedicated volunteer members who contribute significantly to their society and ensure its success by serving in various DED technical committees. The division currently has the following thirteen technical committees: (1) Design Automation; (2) Design Education; (3) Design for Manufacturing; (4) Design Theory and Methodology; (5) Fastening and Joining; (6) Mechanisms and Robotics; (7) Power Transmission and Gearing; (8) Reliability, Stress Analysis and Failure Prevention; (9) Vehicle Design; (10) Vibration and Sound; (11) Micro/Nano Systems; (12) Multibody Systems & Nonlinear Dynamics; and the newest committee (13) Mechatronic and Embedded Systems and Applications. These technical committees sponsor many of the division activities including conferences at the annual DED International Design Engineering Technical Conferences (IDETC) which has grown over the last few years to be one of the most successful ASME conferences, attracting a large number of eminent scholars, researchers and practicing engineers from academia and industry. This international meet-

ing, which is organized by a group of dedicated volunteers and ASME staff members, will be held this year in San Diego, California. DED technical committees promote design engineering scientific research and transfer of technology by sponsoring several excellent journals that include (1) the Journal of Computing and Information Science in Engineering, co-sponsored with the Computers and Information in Engineering (CIE) Division; (2) the Journal of Computational and Nonlinear Dynamics; (3) the Journal of Mechanical Design; (4) the Journal of Mechanisms and Robotics; (5) the Journal of Medical Devices, co-sponsored with the Bioengineering Division; and (6) the Journal of Vibration & Acoustics. DED and its technical committees sponsor several prestigious awards that recognize eminent scientific contributions and dedicated member services. DED members who are interested in serving as members of the DED technical committees or becoming familiar with committee activities and operations can visit the DED website: <http://divisions.asme.org/ded/>.

I would like to thank our outgoing Chair, Dr. Kazem Kazeronian for his dedicated service and skilful leadership. We were fortunate to have a very effective leader who will continue his service to the division as the Past Chair of the DED Executive Committee. I would like also to thank Dr. Judy Vance, the outgoing Past Chair, for her excellent service to the division. Kazem's and Judy's mentorship and advice are very much appreciated. I look forward to working with a group of

excellent volunteers, Drs. Hamid R. Hamidzadeh, (Buddy) W. Clark, Vijay Kumar, and Zissimos Mourelatos, who serve as members of the DED Executive Committee. I would like to welcome Drs. Kurt Anderson, Wei Chen, and Georges Fadel as the new members of the DED Executive Committee. DED operations and activities are supported by a group of dedicated ASME staff. I would like to thank all ASME staff who provided DED with the support needed. In particular I would like to thank Mr. Richard Ulvila, Ms. LaShion Pettiford, and Ms. Erin Dolan.

I am honored to have the opportunity to serve as the DED Chair, and I look forward to having another successful year for our division. ●

Inside

Message from the Chair	1
Greetings from the Past Chair	2
Conference Reports	3
IDETC-CIE 2010	4
Journal Activity Reports	4
Committee Reports	5
Standing Committee Reports	7
Executive Committee Roster	8

DED Newsletter – Wiki Edition

Once again, the wiki edition of this newsletter is available at http://ddl.me.cmu.edu/ddwiki/index.php/ASME_DED_Newsletter. The wiki edition contains full-length articles with links and additional information that did not fit in the print version. In the spirit of collaborative authorship, the wiki edition of the newsletter can be edited by any member who wishes to provide additional information and/or links. ●

Jeremy J. Michalek

ASME DED Newsletter Editor

Publicity and Newsletter Committee Chair

EXECUTIVE COMMITTEE REPORTS

Greetings from the Past Chair • *Kazem Kazeronian, Immediate Past DED Chair*



My term as the Chair of the Design Division in 2008-09 has passed very quickly. It has been one of the richest experiences of my professional life, and it has been a privilege to serve on the Executive

Committee and have the opportunity to lead one of the most successful divisions in the ASME. It has been thrilling to see so many of the Division members volunteering countless hours of their time for the wellbeing of the community and for the cause of advancing Engineering Design. It has also been a humbling experience to be able to work and exchange ideas with men and women who are national and international leaders in the field of Engineering Design.

During the 2008-09 year, the Executive Committee has worked hard to continue to adapt the Division to the growing needs of its members and the rapid changes in the society. The markets have had significant adverse effects on the Division's financial account balances. The DED custodial and operational (technical committees and awards) account balances have dropped by about 30%. Nevertheless, the Division continues to be in very good financial health, and we have been able to continue to make strategic investments in our community activities and in people.

The highlights of our achievements in the past year are:

- Extending the Executive Committee membership by creating two new positions, each with three year terms renewable for a second term. These new executives will oversee the Division's activities in Honors & Awards and Publications. I welcome Dr. George Fadel and Dr. Kurt Anderson, respectively, to these positions.

- A new technical committee, "The Mechatronic and Embedded Systems and Applications (MESA) Committee" has been formally established in the Division, bringing the number of technical committees to thirteen. This committee, which had operated as a sub-committee of the Mechanisms and Robotics Committee for the past two years, provides a forum for technical discussions and interactions on topics related to emerging

technologies in mechatronics and embedded systems that impact critical research and engineering issues. I congratulate Dr. Harry Cheng, the current chair of this committee, and his colleagues for this major achievement.

- Development of the Special Committee on Broadening Participation. The goal of the Broadening Participation committee is to develop, implement, and oversee new and existing activities aimed at broadening the participation of women and underrepresented minorities in the activities of the Design Engineering Division of the ASME. Dr. Judy Vance spearheaded the formation of this committee, and currently Dr. Janis Terpenney chairs it. Look forward to their activities in IDETC-CIE 2009 in San Diego.

- Development of the Special Committee on "Innovation and Entrepreneurship" to start, monitor, support, coordinate and facilitate the Division's activities in this area. Dr. Jahangir Rastegar, a successful entrepreneur and innovator, has agreed to form and lead this committee for the next three years.

- Development of the Special Committee on "Enterprise Study and Strategic Initiatives". This committee consists of individuals experienced in organizational management and strategies who will study the practices of our Division as well as other Divisions and Societies in order to provide advice and counsel to the Executive Committee. Dr. Souran Manoocheri will be the Chair of this committee for a three year term.

- In 2008-2009 we were again able to match the various award contributions made by the technical committees in amounts up to \$5000.

- We have supported an initiative by the 2009 IDETC-CIE general conference chairs to develop activities targeting student participation and experience in the conference.

- The Division has also provided support for a workshop just prior to the 2009 IDETC-CIE in San Diego organized by the Broadening Participation Committee on "Effective Negotiations." This workshop will accommodate approximately 50 attendees. The purpose of this workshop is to provide professional development activities to enhance participants' success as leaders. The networking activities have the potential to form the core of an affinity group of future

efforts in broadening participation.

In 2008 The International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC-CIE) held in New York was very successful. The effort involved in conducting a successful conference of this magnitude is truly amazing. Many thanks to the 2008 IDETC-CIE general conference chairs Dr. Souran Manoocheri and Dr. Jahangir Rastegar for a job well done.

The Division sponsors six technical journals. These journals, technically and financially, are in excellent shape. I sincerely thank all of the editors and associate editors of our journals for their efforts.

There are some new appointees to the DED leadership team. Dr. Irem Tumer now heads the Government Relations Committee. Dr. Linda Schmidt is now the chair of the Constitution and Bylaws Committee in the Division.

I want to specially acknowledge and thank Dr. Judy Vance, the prior past DED chair, for her guidance and support and her valuable service to the Division.

Over the past year I have had the privilege of working with and benefiting from the wisdom of a very strong executive committee: Dr. Ahmed Shabana, Dr. Hamid Hamidzadeh, Dr. William W. (Buddy) Clark, Dr. Zissimos Mourelatos, and Dr. Vijay Kumar. I welcome Dr. Kurt Anderson, Dr. Wei Chen, and Dr. George Fadel as the new members of the DED Executive Committee.

I also want to thank the ASME staff and in particular three capable individuals, Ms. LaShion Pettiford, Ms. Erin Dolan, and Mr. Richard Ulvila, for all of the support they provide the Division.

I congratulate Dr. Ahmed Shabana, the incoming chair of DED. We can rest assured that under his capable leadership the Division will prosper and grow.

Finally, I want to thank all the Division members. Because of your selfless participation in our technical committees, our general and executive Committees, our standing and special subcommittees, our journals, our awards, our conferences, our publications and newsletters, and our services, this community is alive and thriving. •

CONFERENCE REPORTS

IDETC-CIE 2008

Souran Manoochehri

Jahangir Rastegar

2008 IDETC-CIE General Conference Co-Chairs

The 2008 ASME International Design Engineering Technical Conferences (IDETC) and Computers and Information in Engineering Conference (CIE) took place during August 3-6, 2008 at the New York Marriott at the Brooklyn Bridge in New York City. According to the organizers and many attendances, the conference was a great success. We surpassed our projections for registrations and paper submissions as well as exceeded our revenue and financial targets. Overall paper submissions to the conferences were outstanding. The conference planning was on track and as planned. The IDETC-CIE Conference Chairs organized a very successful and memorable evening of a cruising dinner reception in New York Harbor on Monday night. In addition there was a reception organized for Sunday evening for the conference organizers and close participants and an afternoon reception on Tuesday for all conference participants.

The 2008 IDETC-CIE received 842 papers submitted to all eight participating conferences. 654 papers were accepted and scheduled for the technical presentations. There were 169 scheduled sessions including one general plenary and six keynote sessions. Dr. Adnan Akay, Director of Civil and Mechanical Systems Division of NSF, delivered the general conference welcome keynote lecture. There were 44 poster presentations and nine scheduled tutorials and workshops sponsored by the participating technical committees and conferences. We had seven exhibitors at the conference and eight teams of Student Mechanism Design competitions with twelve Student Essay Competitions sponsored by ASME and NSF.

We would like to take this opportunity to express our thanks again to conference and symposium chairs, program chairs, and all those who helped in the organization of this conference. Most of all, we would like to express our thanks to all authors, reviewers, and all other conference participants. Special thanks is also due to the ASME staff for organizing such a successful conference. ●

IDETC/CIE 2009

Kurt Anderson • George Flowers

2009 IDETC-CIE General Conference Co-Chairs

www.asmeconferences.org/IDETC09

On behalf of the ASME Design Engineering and Computers in Engineering Divisions, it is our great pleasure to invite you to attend and contribute to the ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference. The conference will take place August 30 – September 2, 2009, at the San Diego Convention Center in conjunction with the Omni San Diego Hotel. San Diego is easily accessible from anywhere in the world and provides a near ideal combination of outstanding meeting facilities, beaches, beautiful California weather, and world famous attractions.

The 2009 IDETC/CIE will include plenary sessions, keynote lectures, and tutorials on different topics related to engineering design. 1233 papers have been accepted for presentation.

A brief list of the participating conferences are:

- 35th Design Automation Conference (DAC)
- 33rd Mechanisms and Robotics Conference (MECH)
- 29th Computers and Information in Engineering Conference (CIE)
- 22nd Biennial Conference on Mechanical Vibration and Noise (VIB)
- 21st International Conference on Design Theory and Methodology (DTM)
- 20th Reliability, Stress Analysis, and Failure Prevention Conference (RSAFP)
- 14th Design for Manufacturing and the Life Cycle Conference (DFMLC)
- 11th International Conference on Advanced Vehicle and Tire Technologies (AVTT)
- 7th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC)
- 6th Symposium on International Design and Design Education (DEC)
- 3rd International Conference on Micro- and Nanosystems (MNS)
- 2009 ASME/IEEE International Conference on Mechatronic and Embedded Systems and Applications (MESA09)
- ASME Power Transmission and Gearing Conference (PTG)

The IDETC-CIE 2009 Opening Reception will take place at Petco Park with the Padres. The reception will consist of a barbeque (vegetarian options will be available) and a San Diego Padres baseball game (souvenir hats are planned), Monday evening August 31, 2009. Petco Park is immediately adjacent to the conference hotel (with a connecting “sky bridge”), so transportation shall not be an issue.

Matthew Parkinson of Penn State has joined the conference organization effort and is aiding us in our effort to enhance the student experience. Current activities include, but are not limited to: student breakfast; student mixer/reception; student scavenger hunt; promotion of student involvement and attendance at awards luncheons (this includes subsidizing a block of student luncheon tickets as funds allow).

We look forward to seeing you in San Diego! ●



San Diego Convention Center



San Diego Omni Hotel

IDETC-CIE 2010

Pierre Larochelle • General Conference Chair, Florida Institute of Technology, pierrel@fit.edu

Andrew Murray • Technical Program Chair, University of Dayton, Andrew.Murray@notes.udayton.edu

The 2010 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference will take place during August 15-18, 2010 at the Fairmont Queen Elizabeth Hotel in Montréal. The conference is the flagship international meeting for Design Engineering and includes the following conferences:

- 36th Design Automation Conference (DAC)
- 34th Annual Mechanisms and Robotics Conference (MR)
- 30th Computers and Information in Engineering Conference (CIE)
- 22nd International Conference on Design Theory and Methodology (DTM)
- 15th Design for Manufacturing and the Lifecycle Conference (DFMLC)
- 7th Symposium on International Design and Design Education (DEC)
- Special Conference on Mechanical Vibration and Noise (VIB)

Technical papers describing research results are solicited for the 2010 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 Fairmont Queen Elizabeth Hotel is centrally located in the heart of downtown Montréal near McGill University and École de Technologie Supérieure. Several subway stations nearby provide easy access to all parts of the city. We look forward to welcoming you to Montréal in August, 2010!



Montréal, Quebec



Fairmont Queen Elizabeth Hotel

JOURNAL ACTIVITY REPORTS

Computational and Nonlinear Dynamics

Subhash C. Sinha, JCND Editor

The Journal of Computational and Nonlinear Dynamics (JCND) is a quarterly journal that provides 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. Last year, Associate Editors Om Prakash Agrawal, Kurt Anderson, Olivier Bauchau, Hamid Lankarani, John McPhee and Ahmed Shabana were re-appointed to a second three year term to serve in the general area of multi-body system dynamics. Professors Bala Balachandran, Alain Berlioz, Harry Dankowicz, Al Ferri, Christophe Pierre, Giuseppe Rega, Werner Schiehlen, and Lawrie Virgin will also continue serving as Associate Editors in the areas related to dynamics and vibrations of nonlinear systems. Professor J. A. Tenreiro Machado of the University of Porto, Portugal has been appointed as an Associate Editor for papers related to fractional dynamics, robotics, and control. Professors Dan Negrut and Olivier Bauchau are working on a special issue on Multi-disciplinary High-performance Computational Multibody Dynamics.

I encourage you to choose JCND as the medium of dissemination of your research if it falls within the scope of the Journal. All manuscripts must be submitted electronically

through the journal tool of ASME. Please take a look at the journal web site <http://journal.tool.asme.org>. JCND is indexed in Science Citation Index Expanded, Journal Citation Reports/Science Edition and Current Contents/Engineering Computing and Technology starting from the first issue of January 2006. All of us associated with the JCND are committed to a fair and rapid review process. And, please contact me directly if you have any comments or suggestions. Email: ssinha@eng.auburn.edu. ●

Mechanical Design

Panos Y. Papalambos, Editor



The Journal of Mechanical Design (JMD) serves the broad design community as the venue for scholarly, archival research in all aspects of design activity. JMD has traditionally served the ASME Design Engineering Division and its technical committees, but it welcomes contributions from all areas of design with emphasis on synthesis. Example topics include:

- Design automation, including design representation, virtual reality, geometric design, design evaluation, design optimization, risk and reliability-based optimization, design sensitivity analysis, system design integration, ergonomic and aesthetic considerations, and design for market systems
- Design of direct contact systems, including cams, gears and power transmission systems

- Design education
- Design of energy, fluid, and power handling systems
- Design innovation and devices, including design of smart products and materials
- Design for manufacturing and the life cycle, including design for environment, DFX, and sustainable design
- Design of mechanisms and robotic systems, including design of macro-, micro- and nano-scaled mechanical systems, machine component, and machine system design
- Design theory and methodology, including creativity in design, decision analysis, design cognition, and design synthesis

The connecting thread among all these topics is the emphasis on design, rather than just analysis. Design scholarship is based on careful analysis models, whether physical, computational, or behavioral, and has design intent: creating something in the physical world we live in, rather than just analyzing what is happening in it. ●

Medical Devices

Arthur Erdman, Co-Editor



The Journal of Medical Devices (JMED) is an exciting new venture offered by ASME with Co-Editors Dr. Arthur Erdman, Mechanical Engineering and Dr. Gerald Miller, Biomedical Engineering.

continued on page five

This journal offers an important opportunity to our biomedical and design community to describe innovative devices used in the clinic and the laboratory that cannot be easily presented in other journals or venues. Papers in this Journal are expected to focus on applied research and development of new medical devices or instrumentation. The Journal will publish papers on devices that improve diagnostic, interventional, and therapeutic treatments. Of particular interest are novel devices that allow new surgical strategies, new methods of drug delivery, or other devices that are intended to reduce the complexity, cost, or adverse results of health care. Significant biomechanical, clinical, or engineering content is 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 March 2009 issue will mark two full years of this Journal. We encourage you to submit a paper or subscribe to the journal: <http://www.asme.org>. •

Vibration & Acoustics

Kon-Well Wang, Editor



The purpose of the Journal of Vibration and Acoustics (JVA) is to serve as a vehicle for the communication of original research results of permanent interest in all areas of vibration and acoustics. Papers published by the journal are full-length articles of depth. The journal also presents Technical Briefs, which are intended to serve as a means for the rapid communication of recent developments in an abridged form. Examples of specific topic areas covered include, but are not limited to: vibration of continuous and lumped parameter systems;

linear and non-linear vibrations; random vibration; modal analysis; mechanical signatures; structural dynamics and control; vibration suppression; vibration isolation; passive and active damping; machinery dynamics; rotor dynamics and vibration; acoustic emission; noise control; machinery noise; structural acoustics; fluid-structure interaction; aeroelasticity; and flow induced noise and vibration.

We are increasing the number of associate editors (AEs) to maintain reasonable AE workload and reduce paper handling/review time. Recently, Professor Bogdan Epureanu from the University of Michigan, Professor Alan Palazzolo from Texas A&M, Professor Massimo Ruzzene from Georgia Tech, Professor Steve Shaw from the Michigan State University, Professor Tom Royston from the University of Illinois Chicago, and Professor Jiong Tang from the University of Connecticut were appointed as new AEs.

I would like to encourage you to submit your research papers in vibration and acoustics to JVA. I also want to take this opportunity to thank all the authors, reviewers, associate editors and staff members who have contributed to make the past year another good one for JVA. Please feel free to contact me regarding any issues related to the Journal. I always welcome ideas and suggestions. •

COMMITTEE REPORTS

Design Automation

Frank Liou, Committee Chair

The ASME 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 2008 ASME IDETC, 174 papers were submitted to the Design Automation Conference, of which 126 papers were accepted. These papers were presented in 28 technical sessions in 3 parallel tracks at the conference. Dr. Byeng D. Youn, Pingfeng Wang, Zhimin Xi, and Artemis Kloess received the Ford Motor Company Best Paper Award for their paper entitled, "Bayesian Reliability Analysis with Evolving, Insufficient, and Subjective Data Sets."

Our DAC Keynote Speaker, Dr. David Gorsich (U.S. Army TARDEC), shared his experiences and discussed the condition-based maintenance (CBM) and reliability-centered maintenance (RCM) of ground vehicles. Our Industry Liaison, Mr. Joe Donndelinger (General Motors Corporation), organized a panel of experts from industry who shared their experiences on the use of commercially available software solutions for automated design integration, analysis, and optimization in industrial settings.

We continue to attract many applicants to serve on the DAC Executive Committee. In

2008, Dr. Kemper Lewis (University at Buffalo – SUNY) was elected to serve on the Executive Committee as the Special Sessions Paper Chair for the 2008 ASME IDETC - Design Automation Conference. He joins Committee Chair Dr. Frank Liou, Conference Chair Dr. Kazuhiro Saitou, Program Chair Dr. Zissimos P. Mourelatos, and Industry Liaison Mr. David Dietrich. Dr. Timothy W. Simpson is the Committee's Past Chair, and Dr. Horea Ilies (University of Connecticut) maintains the websites for our conference and committee <http://cdl.engr.uconn.edu/asmeda>. •

Design Education

Gul Kremer, Committee Chair

In comparison to other conferences under the IDETC umbrella, the Symposium on International Design and Design Education is in its infancy stage, but in a growth mode. Our participation in IDETC 2009 will mark the 6th year for us. Despite this fact, however, we report an increased interest.

Last year, DEC had 23 technical papers in addition to 5 student papers featuring the best submissions to the recently revised Young Design Engineer's Paper Competition. For DEC 2009, we have received 33 submissions (an increase of 10%) for technical papers in addition to 6 Young Design Engineer's Paper Competition submissions. For DEC 2009,

the Conference Chair is Peter Jones, and the Program Chair is Dirk Schaefer. Recently, we have identified three themes to increasingly take the center stage in our conferences for their impact on design education: (1) interdisciplinary design, (2) globalization, and (3) creativity and innovation. The Sixth Symposium on International Design and Design Education will feature sessions on these topics along with sessions on best practices, service focused design, and design education via distance learning. We have several parallel efforts targeting an increased rigor in the technical paper submissions. First, as a technical committee we have proposed a "Best DEC Paper" award. Through this award we will recognize the author(s) for their implementation of rigorous research methods on design education and international design topics. This award proposal is currently under review at the division level. Secondly, our committee has participated in securing nominations for the Design Education Associate Editor for the Journal of Mechanical Design (JMD). We hope to see DEC papers to appear in JMD more frequently. In the near future, we aim to grow our visibility under the IDETC umbrella as we believe that design education and international design (our central topics) relate to all other sister conferences. Accordingly, we hope to strengthen our collaborative efforts.

continued on page six

If you have ideas/suggestions in this regard please contact one of the DEC officers. Our current officers are: Gül Kremer, Chair; Phil Doepker, Associate Vice Chair and Chair of the International Activities Subcommittee; Jeffrey Mountain, Vice Chair; Mike Keefe, Secretary; and Al Karvelis, Treasurer. We are seeking nominations for the Program Chair position for the 2010 conference. Those interested in learning more about opportunities within DEC are asked to contact Gül Kremer (Penn State) at gkremer@psu.edu. ●

Design for Manufacturing

Edward Morse, Committee Chair

The primary activity of the DFM Technical Committee is organizing the Design for Manufacturing and the Life Cycle (DFMLC) Conference at the ASME IDETC. 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. Peter Sandborn and Marcos Esterman organized the 2008 DFMLC conference. Forty four papers were submitted, and 33 were accepted. The DFM Technical Committee had our official face-to-face meeting during the meeting in New York.

The 2008 DFMLC conference Best Paper Award went to Christopher Williams, Farrokh Mistree, and David Rosen, for their paper "Functional Classification Framework for the Conceptual Design of Layered Manufacturing Technologies." This award was presented by the program chair, Marcos Esterman, to Farrokh Mistree and Christopher Williams at the DED Awards Lunch.

For the 2009 DFMLC conference in San Diego, Marcos Esterman will be the conference chair and Shun Takai will be the papers chair. Also at the 2009 DFMLC conference, we will have our first sessions dedicated to Entertainment Engineering, under the guidance of John Wesner and Dan Cook.

The committee officers for 2008-2009 are Edward P. Morse (Chair), Kazu Saitou (Vice-Chair), and Peter Sandborn (Secretary). The following persons have represented the DFM community as AEs for ASME journals: Jeffrey W. Herrmann is an Associate Editor for the Journal of Mechanical Design (JMD); and Satyandra K. Gupta is an Associate Editor for the Journal of Computing and Information Science in Engineering (JCISE). For more information, please contact Edward P. Morse at 704-687-8342 or emorse@uncc.edu. ●

Design Theory and Methodology

Michael J. Scott, Committee Chair

The mission of the Design Theory and Methodology Committee is to facilitate and enhance the development of design theo-

ries and the methods that grow from them.

For IDETC 2008 we received 97 papers, of which 47 were selected for presentation; ten of the accepted papers had an industry collaborator and 20 were from international authors. The 2008 DTM Best Paper Award went to Ian Tseng, Jarrod Moss, Jonathan Cagan, and Kenneth Kotovsky for their paper, "Overcoming Blocks in Conceptual Design: The Effects of Open Goals and Analogical Similarity on Idea Generation." The Committee would like to thank Li Shu and Bob Paasch for their able service as Conference Chair and Papers Chair, respectively. For IDETC 2009, Bob Paasch will serve as Conference Chair and Dan McAdams as Papers Chair.

New officers for the two-year term beginning on July 1, 2009 were elected at the annual committee meeting at IDETC 2008. Li Shu of the University of Toronto will serve as Chair, and Janis Terpenney of Virginia Tech as Vice-chair. Dan Frey of MIT will serve as both Secretary and Webmaster.

The DTM Committee welcomes the participation of all who are interested. For more information, visit the Committee's website at <http://function.device.mst.edu/asmedtm>. ●

Fastening and Joining

Endel V. Iarve, Committee Chair

The Fastening and Joining Technical Committee of Design Engineering Division serves ASME members 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, nanotechnology and innovations in adhesive bonding, dynamic behavior and long term durability of joined structures, non-destructive evaluation and characterization, industrial applications, and case studies, as well as many others. The committee sponsors symposiums with a specific theme at the annual International Mechanical Engineering Congress and Exposition. The theme for the 2009 IMECE in Lake Buena Vista, Florida is "Joining Technologies for Advanced Materials and Structures" The organizers for this symposium are Dr. Endel V. Iarve, Dr. Thomas J. Whitney of The University of Dayton Research Institute, Dayton OH and Dr. Timothy Breitzman, Air Force Research Laboratory, WPAFB OH. The committee currently has about twelve 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 Dr. Endel Iarve, University of Dayton

Research Institute, Dayton OH 45469-0060, phone (937) 255-9094; fax (937) 258-8075; e-mail: endel.iarve@wpafb.af.mil. ●

Micro- and Nanosystems

Laxman Saggere, Committee Chair

The Micro and Nanosystems (MNS) Technical Committee was established in July 2005. Its mission is to promote research and development activities related to advancement of microsystems and nanotechnology within the broad scope of the Design Engineering field. The committee is comprised of 21 elected members (including officers) with representatives from academia, national research labs, and industry. The committee officers for 2008-2009 are Laxman Saggere (Chair), Arvind Raman (Vice-Chair), and Gloria Wiens (Secretary).

As one of its main activities, the committee sponsors and organizes the annual International Conference on Micro and Nanosystems (MNS). After two successful conferences in 2007 and 2008 with increasing participation, the committee is now organizing its 3rd International Conference on Micro and Nanosystems as part of the 2009 IDETC. With over 70 papers accepted to the conference, the 2009 MNS conference will have even larger participation than the previous two. Professors Gloria Wiens and Edward Berger are serving as the Conference Chair and Program Chair, respectively, for the 2009 conference. The MNS conference provides researchers and practitioners in the MEMS/ NEMS field a unique forum for exchange of technical and scientific information on current and emerging issues in design, manufacturing, dynamics and mechanics of micro- and nano-scale systems through interactive oral/poster presentations, keynote lectures and panel discussions involving experts from industry and academia as well as representatives from federal funding agencies. The keynote lectures at the 2007 and 2008 MNS conferences were given by Dr. Kurt Petersen (SiTime), NAE Memeber, and Professor Albert P. Pisano (Berkeley), NAE Memeber, respectively.

The 2008 MNS Best Paper award went to Matthew S. Johannes, Daniel G. Cole, and Robert L. Clark for their paper titled "Enabling Soft Lithography using an Atomic Force Microscope." This year, the committee established a new division-level award called the Micro- and Nano Systems (MNS) Innovator Award that will be presented beginning at the 2010 MNS conference to an individual for a major innovative contribution to micro/nano systems engineering.

The MNS committee Chair, Laxman Saggere, represented the DED in the Micro/ Nanosystems Track as the Track Co-Chair at the 2007 IMECE. He was recently appointed by the DED to a three-year term beginning 2009 as the DED representative to the ASME Technical Communities' Nanotechnology Council. For more information about the

continued on page seven

MNS committee or opportunities to participate in the MNS activities, please contact Laxman Saggere (UIC) at e-mail: saggere@uic.edu; phone: (312) 413-1031, or visit the MNS committee website at <http://www.uic.edu/depts/me/mns/> •

Mechanisms and Robotics

Gordon Pennock, Committee Chair

The Mechanisms and Robotics Committee has the mission of promoting advances in research and education in the theory, design and applications of mechanisms, machines, robots and mechatronic systems. Areas of interest include: kinematics and dynamics of mechanisms, analysis of robotic systems, design of linkages, cams, gears, transmissions, bio-inspired machines, mechatronics, compliant mechanisms, and micro and nano machines. The flagship conference for this committee is the Mechanisms and Robotics Conference, which is the largest conference in the ASME IDETC. The main journal for this committee is the Journal of Mechanisms and Robotics. (In recent years, it was the Journal of Mechanical Design). This past year, 2008-2009, was another very active year for the Mechanisms and Robotics Committee. A summary of the main highlights are as follows:

- The committee was responsible for the oversight and organization of the 2008 Mechanisms and Robotics Conference which consisted of keynote presentations, symposiums featuring technical papers, and student design competitions.
- The committee recognized Dr. Clément Gosselin, Director of the Robotics Laboratory at Laval University, Canada, with the DED Mechanisms and Robotics Committee Award for cumulative contributions to the field of mechanism design and theory.
- The Mechanisms and Robotics committee has worked diligently on establishing a new journal which would focus on the central mission of the committee. The new journal is entitled the ASME Journal of Mechanisms and Robotics, with Dr. J. Michael McCarthy, University of California, Irvine, as the founding editor. The first volume of this journal appeared in February of this year.
- The committee established a new website wiki site that reflects the breadth of our activities and the excitement that exists in our community. The server is provided by the University of Pennsylvania through Professor Vijay Kumar. An alternative address for the website is <http://alliance.seas.upenn.edu/~asmemr/cgi-bin/pmwiki>. It is now possible to have several people (or all of the committee members) update the content of this site.
- The committee has also established an ASME Mechanisms & Robotics Video Web-Portal.

Submissions to this YouTube channel can be made through Video sub-committee website. •

Multibody Systems and Nonlinear Dynamics

Kurt Anderson, Committee Chair

The mission of the Technical Committee on MSND is to foster experimental, symbolic, computational and analytical activities pertaining to multibody systems and nonlinear dynamics and control and other related areas. The committee consists of members from academia and industry. One of the main activities of the committee is to organize the Biennial International Conference on Multibody Systems, Nonlinear Dynamics and Control (ICMSNDC) at IDETC. At the upcoming 7th ICMSNDC the D'Alembert Award for significant contribution to the field of Multibody Systems will be presented to Professor Edward Haug (Emeritus) of University of Iowa. Similarly, the Lyapunov Awards for significant contribution to the field of Nonlinear Dynamics will go to Professor Philip Holmes of Princeton University. The upcoming 7th ICMSNDC, to be held in San Diego CA, will hold a new student paper competition. Students working in the fields of multibody systems, nonlinear dynamics and control are encouraged to submit papers to this competition. The student must appear as the first author on the paper to be considered. The MSND technical committee is also closely affiliated with the ASME Journal of Computational and Nonlinear Dynamics. Under the leadership for Professor Subhash Sinha, this journal is flourishing. •

Power Transmission and Gearing

Ahmet Kahraman, Committee Chair

The primary activity of the PTG Committee is organizing the ASME Power Transmission and Gearing Conference at the ASME IDETC. It organizes a large-scale international conference every four years and a smaller mostly domestic conference in between. The committee is currently organizing one of its smaller conferences that will be held as part of the 2009 IDETC. Dr. Ahmet Kahraman and Dr. Avinash Singh will serve as the Conference and Technical Program Chairs, respectively. A total of 48 papers have been received for this conference on topics such as design, dynamics, durability, manufacturing and tribology of gears and power transmission systems. A paper review committee has been formed for processing these draft papers. The PTG Committee met several times over the last six months to review and update the by-laws of the Committee that were in effect since the early 1990s. The updated PTG by-laws have been posted on its newly designed website. For more information on the PTG

Committee and its forthcoming activities, please contact Dr. Ahmet Kahraman (kahraman.1@osu.edu) or visit our website at <http://www.asmeptg.org>. •

Vibration and Sound

Chris Rahn, Committee Chair

The Technical Committee on Vibration and Sound (TCVS) provides leadership for promoting research 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. One of its main activities is the organization of the Biennial Conference on Mechanical Vibration and Noise, which is a part of the odd-year ASME IDETC. In addition, TCVS sponsors reviewed paper sessions, lectures and panel sessions at the annual IMECE and other conference venues. Further activities related to disseminating information include biannual interactions with the ASME Journal of Vibration and Acoustics when the Editor reports to the committee. In 2008, TCVS co-sponsored the Nonlinear and Adaptive/Passive Controls (NDPAC) Symposium at the inaugural Smart Materials, Adaptive Structures, & Intelligent Systems Conference and had members and friends participating in IMECE. TCVS members Chris Rahn, Nader Jalili, Brian Mann, and Jiong Tang helped organize the NDPAC Symposium. At IMECE, TCVS members Bogdan Epureanu and Dumitru Carunthu organized sessions with over 100 papers. In 2009, TCVS is again sponsoring the vibrations conference at IDETC with former TCVS Chair George Flowers co-chairing the conference and TCVS member Dane Quinn as Technical Program Co-Chair. Over 200 papers have been accepted to the vibrations conference. For more information, please visit the TCVS webpage at: http://divisions.asme.org/ded/Vibration_Sound.cfm or contact Professor Chris Rahn, Department of Mechanical and Nuclear Engineering, 150A Hammond Building, Penn State University, University Park, PA 16802; phone (814) 865-6237; fax (814) 863-7222; e-mail: cdrahn@psu.edu. •

Honors and Awards

Georges M. Fadel, Committee Chair

The following people received ASME Society Awards and Design Division Awards at the 2008 IDETC:

Dr. Alexander H. Slocum, MIT: Machine Design Award "for breakthrough machinery designs and technologies that have extended the limits of machine tools and systems, and for educating a generation of design engineers

continued on page eight



Design Engineering Division

Three Park Avenue, New York, NY 10016-5990

<http://divisions.asme.org/ded/newsletIndex.html>

NON-PROFIT
U.S. POSTAGE
PAID
SYRACUSE, N.Y.
PERMIT NO. 3893

through his landmark books and innovative teaching.”

Dr. Kosuke Ishii, Stanford University, Ruth & Joel Spira Outstanding Design Educator Award for “leadership of the Stanford course series on Design for Manufacturability and for being extremely influential in the creation of similar courses at other universities. He has educated many students through the course series, both on campus, and at distant learning sites. A number of companies have licensed the courses for presentation in-house. He has also graduated many doctoral students who now teach the material in academia and industry.”

Dr. Krishna Gupta, University of Illinois at Chicago: Abbott Award “for his three decades of outstanding and distinguished service, his valuable leadership and his wisdom. He has generously devoted considerable time and effort to the Division’s success and welfare;” and Dr. Kenneth Waldron, Stanford University: Abbott Award “for his innovative

leadership and devoted service to the Division, to the international design engineering community, and the profession”.

The DED H&A Committee asks that you identify a qualified candidate for an award and submit a nomination. The deadline for receipt of nomination materials is February 1 for the Society and Division Awards; it is helpful in planning when a potential nominator gives some early notice about a nomination to the Chair of the DED H&A Committee. The information about the ASME DED awards is available within the ASME website, along with the nominating procedures and forms. For a specific question, please feel free to contact Georges Fadel at fgeorge@clemson.edu or at (864)656-5620. ●

Student Affairs

Matt Parkinson, Committee Chair

We are committed to integrating students into the ASME DED community. In

particular we would like the students to become aware of the breadth of research activities in the DED and familiar with the people conducting them. To this end, the 2008 DETC featured a Scavenger Hunt in which students completed activities such as attending a technical committee meeting, asking a question in a session, and pondering their future. Special thanks to the many faculty that participated—they were exceptionally gracious. Also thanks to the event sponsors TechSmith, GM, ASME, ScreenSteps, Missouri S&T, and the OPEN Design Lab.

Things to look forward to: 1) The organizing committee has worked to make the conferences particularly engaging for students and early career professionals; 2) the student website will be completely revamped this year, improving usability and content; and 3) the 2009 IDETC will feature a more fierce version of “the Hunt,” so come ready. ●

ASME Design Engineering Division

Executive Committee Roster, July 1, 2009 – June 30, 2010

Chair Ahmed A. Shabana, Ph.D. Dept. of Mechanical & Industrial Engineering 842 W. Taylor St. (M/C 251) University of Illinois at Chicago Chicago, IL 60607-7022 (312) 996-3600 shabana@uic.edu	IDETC Executive Vijay Kumar, Ph.D. Dept. of Mechanical Engineering and Applied Mechanics University of Pennsylvania Philadelphia, PA 19104-6315 (215) 898-3630 kumar@me.upenn.edu	Secretary Wei Chen, Ph.D. Dept. of Mechanical Engineering 2145 Sheridan Road, Rm A216 Northwestern University Evanston, IL 60208-3111 (847) 491-7019 weichen@northwestern.edu	Honors and Awards Chair Georges Fadel, Ph.D. Dept. of Mechanical Engineering Clemson University Clemson, SC 29634-0921 (864) 656-5620 fgeorge@clemson.edu	Staff Support Richard Ulvila Manager, Engineering Programs ASME International 3 Park Avenue, M/S 23S1 New York, NY 10016 (212) 591-7863 ulvilar@asme.org
Vice Chair / Treasurer Hamid Hamidzadeh, Ph.D. Dept. of Mechanical Engineering 3500 John A. Merritt Blvd. Tennessee State University Nashville, TN 37209-1561 (615) 963-5387 hhamidzadeh@tnstate.edu	Technical Committee / IMECE Executive William W. Clark, Ph.D. Dept. of Mechanical Engineering and Material Science University of Pittsburgh Pittsburgh, PA 15260 (412) 624-9794 wclark@engr.pitt.edu	Publications Chair Kurt Anderson, Ph.D. Dept. of Mechanical, Aerospace and Nuclear Eng. Jonsson Engineering Center, rm4006, 110 8th Street Troy, NY 12180 (518) 276-2339 anderk5@rpi.edu	Past Chair Kazem Kazeronian, Ph.D. Dept. of Mechanical Engineering 191 Auditorium Road, Unit-3139 The University of Connecticut Storrs, CT 06269-3139 (860) 486-2251 kazem@engr.uconn.edu	Staff Support Lashion Pettiford Assistant, Engineering Programs ASME International 3 Park Avenue, 22W3 New York, NY 10016 (212) 591-7387 pettifordL@asme.org

Student Affairs Committee

Matthew Parkinson

We are committed to integrating students into the ASME DED community. In particular we would like the students to become aware of the breadth of research activities in the DED and familiar with the people conducting them. To this end, the 2008 DETC featured a Scavenger Hunt in which students completed activities such as attending a technical committee meeting, asking a question in a session, and pondering their future. Special thanks to the many faculty that participated--they were exceptionally gracious. Also thanks to the event sponsors TechSmith, GM, ASME, ScreenSteps, Missouri S&T, and the OPEN Design Lab.

The 2009 DETC will feature both a student reception and the return of the scavenger hunt. The reception is being sponsored by the DED and will provide additional opportunities for student attendees to become better acquainted with each other and people from academia and industry. The scavenger hunt will be "bigger and better" than last year. It is being more prominently advertised and we have some great prizes from the DED, ASME, GM, TechSmith, HermanMiller, and others. Also on our upcoming events list: the student website will be completely revamped this year, improving usability and content.

ASME Design Engineering Division Information Management Report July 2009

Summary

The Information Management Committee is responsible for posting information on the Design Engineering Division (DED) website. Activities have involved web page maintenance and assisting with supply of information for the transition of the DED web site to the new ASME structure.

1. Introduction

The DED Information Management Committee provides reference information for ASME members via the DED web site.

2. Activities September 2008 – July 2009

The primary activity of the Information Management Committee has been to post and update information on the DED web site. Duties have involved updating committee rosters, posting minutes from meetings, posting information on events and repairing links.

In January 2009 the old DED web site was replaced with a new web site which will, in future, incorporate a content management system. Activities have involved assisting with inquiries from the web tools team and forwarding information to be posted onto the web site.

Further comments and on the new web site, or anything related to the new sites, would be gratefully received. All feedback will be passed onto Christina Perakis, Coordinator, Web Tools, ASME.

3. Further Work

Future work will involve working with the Web Tools team to establish a means for adding content to the web site using the proposed content management system.

Shayne Gooch, Ph.D.
Department of Mechanical Engineering
University of Canterbury
Private Bag 4800
Christchurch
NEW ZEALAND
Phone: (+64)(3)364-2987 x7160
FAX: (+64)(3)364-2078
Email: shayne.gooch@canterbury.ac.nz

ASME Design Division K-12 Awareness of Design Committee Report September 1, 2009

Kathy Jacobson - Chair
Kathy.J.Jacobson@LMCO.com
770-494-7818

2008-2009 program involvement:

- o 200 girls plus their chaperones attended our 9th annual Engineers Week Girl Scout Badge workshops at Lockheed Martin on February 17th, 2009. My team organized the workshop which also included 60 women engineer volunteers who were role models for the girls. The Junior Girl Scouts earned their Aerospace badge, and the middle/high school girls worked on career related badge requirements.



- o In Process of developing a mechanical engineering focused badge for a Girl Scout workshop to be beta tested spring 2010 at a Lockheed Martin workshop (initially for the Atlanta GS Council). I am planning to meet with ASME members for their inputs at the IDETC, and currently have a team of young women engineers from Atlanta LM working on the project

ASME Design Division K-12 Awareness of Design Committee Report (Continued)

September 1, 2009

- o Held Engineering booth at the National Science Olympiad Tournament in Augusta, Georgia (May 2009) www.soinc.org. Lockheed Martin provided handouts and airplane hardware for the display. I also volunteered grading tests. Throughout school year I coached a middle school Science Olympiad team and organized a State-wide student-coach workshop in October 2008.



Resources:

Space Day www.spaceday.com

National Engineers Week www.eweek.org

Girl Scouts www.girlscouts.org www.girlsgotech.org

ASME Pre-College Education

<http://www.asme.org/Education/PreCollege/>

<http://www.asme.org/Education/PreCollege/TeacherResources/>

<http://www.asme.org/Education/PreCollege/Partnerships/>

ASME/Girl Scout Collaboration

http://www.asme.org/Education/PreCollege/Partnerships/Girl_Collaboration.cfm

Broadening Participation Committee Report

August 5, 2009

Janis Terpenney, chair

Virginia Tech

The DED approved a budget of \$10,000 during the April 2009 Executive Committee conference call to support a workshop for women and minorities to be held at the 2009 IDETC in San Diego. Since then the committee has been hard at work organizing the workshop. In addition to the DED funds, we were successful in getting a grant from the National Science Foundation of \$29,000 to support graduate student attendance at the workshop. This grant will be administered by Virginia Tech.

As of today, 50 people have applied and 37 have been accepted with the rest on a waiting list for potential selection.

Some demographics of the accepted participants include the following:

- 25 Graduate students (PhD and MS)/ 9 Faculty/ 2 Industry/ 1 NSF Program Director

- 32 women/ 5 men

- 5 minority (note: not all men)

- Multiple nationalities and citizenships represented

We are working with Erin Dolan on facilities and food and Richard Ulvila on procedures for reimbursement. Barbara Butterfield (University of Michigan) and Jane Tucker (Duke) have been hired to lead a ½ day session on Negotiation Skills. They are well known for their expertise in this area and hold these sessions for various organizations across the country. The other ½ day of the workshop is being organized by the committee and will consist of mentoring and networking activities that also relate to negotiation skills.

The description of the workshop from the IDETC'09 website is attached.

Members of the committee include:

- Janis Terpenney, Virginia Tech, chair

- Susan Finger, Carnegie Mellon

- Deborah Thurston, University of Illinois Urbana Champaign

- Judy Vance, Iowa State University

- Gloria Wiens, University of Florida

- Achille Messac, Rensselaer Polytechnic Institute

- Vijay Kumar, U Penn

Publications Committee Report ASME Design Engineering Division July 2009

Preparation of guidelines for Turnover of DED journal Editor-In-Chief (EIC)

Very basic requirements are described within the DED Executive Committee Bylaws for the process associated with replacing a DED journal EIC when their term in office is expiring. It appears that in the past the actual procedures followed have been within the basic requirements as defined by the bylaws, but have been somewhat ad hoc. In an effort address the many questions which have recently been posed of me regarding this process, I am written a draft guideline and associated timeline which formalizes the procedure.

This procedure has been provided to Wei Chen for distribution to the DED Executive Committee for their consideration and comment. This document and process will be discussed at the DED Executive meeting held at the IDETC/CIE 2009 in San Diego..

DED Journal Revenue Sharing

A proposal was put forward by William Clark on revenue sharing associate with the DED journals. I have not yet been able to determine the status of this. It does not appear that this has moved forward.

*Report Submitted by Kurt S. Anderson
Chair DED Publications Committee* □

Innovation and Entrepreneurship Committee

Jahan Rastegar

The Innovation and Entrepreneurship Committee was formed in March 2009. Jahan Rastegar was appointed the Chair of the Committee. To date, the following three members with years of academic and industrial experience have been attracted to serve on this Committee:

1. George Sutherland, Professor, MMET/PS Department, Rochester Institute of Technology.
2. Jim Schmiedeler, Associate Professor, Aerospace and Mechanical Engineering, University of Notre Dame.
3. Kazem Kazerounian, Professor, Mechanical Engineering Department, University of Connecticut.

The members have had preliminary discussion regarding the future activities to promote innovation and entrepreneurship in academia and industry and elsewhere. The Committee will have its first meeting during the 2009 IDETC/CIE Conference in San Diego to plan its activities.