



# Mechanics Division

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## *NEWSLETTER*

Fall 2003

Chair: Sudhir Mehta  
Secretary: Timothy A. Philpot

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Visit the new Mechanics Division Website <http://jjrencis.wpi.edu/aseemechanics/>

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### Message From the Chair

Dear Mechanics Educators:

I would like to extend each of you friendly greetings on behalf of all the ASEE Mechanics Division Officers. I hope your summer was productive and enjoyable, and your classes and other work are going well this semester.

The 2003 Annual Conference in Nashville, TN, was successful and enjoyable in many ways. The five Mechanics Division paper sessions included twenty-six papers, and they were well attended, including a 7 a.m. session. I would like to thank all of our authors, presenters, and our session moderators (Wendy Crone, Brian Self, Jennifer Kadlowec, Christine Masters, and Joseph Rencis) for the wonderful job. Our business and the executive committee meetings were also well attended. Thanks to all of you, who came to these meetings. And, please do keep coming to these meetings, as you are bound to find some of nicest and friendliest mechanics people there!

At our annual Mechanics Awards Banquet, we were privileged to have Paul Draper of I. C. Thomasson Associates, speak to us about the design of mechanical systems of the famous Opryland Hotel. Many awards were given out. A complete list of these awards is given on the ASEE Mechanics Division web site, located at <http://jjrencis.wpi.edu/aseemechanics>. Check it out! This site is maintained by Joe Rencis, our friend, colleague, and past chair of the division. Thanks, Joe!

I'd like to thank Ralph Flori, last year's chair, for the leadership he provided to the division. Please note the Call for Papers in this newsletter for next year's meeting in Salt Lake City, Utah, to be held June 20- 23, 2004. Write an abstract and a paper, and encourage others to do so as well. Also, please begin now to prepare nominations for the Mechanics Division awards for next year. A call for awards is included in the newsletter.

If you have any comments, questions, or suggestions about the Mechanics Division, please do not hesitate to let me know. Have a great semester.

Sudhir Mehta  
2003-04 Mechanics Division Chair

## **Call for Award Nominations**

### **Archie Higdon Distinguished Educator Award**

The Archie Higdon Distinguished Educator Award is given annually by the Mechanics Division for distinguished and outstanding contributions to engineering mechanics education. The nomination package should include the following:

1. A letter of nomination and no more than four accompanying letters of support that delineate the nominee's contribution to mechanics education, and
2. Nominee's curriculum vitae.

The award consists of a plaque to be given at the annual Mechanics Division Banquet and registration for the ASEE Annual Conference along with registration for the Mechanics Division Banquet.

### **Ferdinand P. Beer and E. Russell Johnston, Jr. Outstanding New Mechanics Educator Award**

The Ferdinand P. Beer and E. Russell Johnston, Jr., Outstanding New Mechanics Educator Award is given annually to up to three individuals who have shown a strong commitment to mechanics education. The winners are selected on the basis of their exceptional contributions to mechanics education. Individuals who have no more than five years of academic experience past their first regular academic appointment are eligible. The nomination package should include the following:

1. A letter of nomination that delineates the nominee's contribution to mechanics education and no more than two additional letters of support,
2. A one-page letter from the nominee describing his or her personal philosophy regarding mechanics education, and
3. Nominee's curriculum vitae.

The award consists of a \$200 cash prize, a plaque to be awarded at the Mechanics Division Banquet, and registration for the ASEE Annual Conference along with registration for the Mechanics Division Banquet and Business Meeting Luncheon.

### **Mechanics Division James L. Meriam Service Award**

The Mechanics Division James L. Meriam Service Award may be given annually to recognize significant service to the Mechanics Division as characterized by notable leadership, significant contributions, and prolonged and dedicated service. Candidates for the award must be members of the Mechanics Division and must have served the Division for a minimum of ten years. No individual may receive the award more than once, and members of the Division's Awards Committee are not eligible for the award until two years after completing their service on that committee. Nominations may be made by all members of the Mechanics Division except for those members serving on the Division's Awards Committee. Each nomination package must include the following:

1. A chronological listing of the candidate's service to the Division, and
2. A narrative statement detailing the significant elements of the service.

The award consists of a plaque to be given at the annual Mechanics Division Banquet and registration for the ASEE Annual Conference along with registration for the Mechanics Division Banquet.

Attendance at the ASEE Annual Conference is required for the awardees. Nominations are due (in triplicate) by **January 31, 2004**. Point of contact for submission of nominations or for additional information is Professor Renata Engel, 212 EES, Penn State University, University Park, PA 16801; email: rse1@psu.edu.

# **Mechanics Division - 2003 ASEE National Conference in Nashville, Tenn.**

## **Best Paper Award**

Paul Steif and Anna Dollar. "A New Approach to Teaching and Learning Statics."

## **Best Paper Presentation Awards**

### **Session 1168 - Trends in Mechanics Education**

Gary Gray, Philip Cornwell, Francesco Costanzo, Don Evans, and Brian Self. "Toward a Nationwide Dynamics Concept Inventory Assessment Test."

### **Session 1368 Innovative Hands-On Projects and Labs**

Douglas Adams, Nasir Bilal, and Harold Kess. "Development of a Roving Laboratory in Vibrations for Undergraduate Engineering Students."

### **Session 2268 - Improving Statics and Dynamic Classes**

Joint award:

Paul Steif and Anna Dollar. "A New Approach to Teaching and Learning Statics."

Anna Dollar and Paul Steif. "Learning Modules for the Statics Classroom."

### **Session 2368 - Improving Mechanics of Materials Classes**

Timothy Philpot, Ralph Flori, Richard Hall, Nancy Hubing, David Oglesby, and Vikas Yellamraju. "Games as Teaching Tools in Engineering Mechanics Courses."

### **Session 3268 - Innovations in Teaching Mechanics**

Joseph Rencis, Hartley Grandin, and William Jolley. "A Module for Teaching Fundamentals of Finite Element Theory and Practice Using Elementary Mechanics of Materials."

## **Overall Best Paper Presentation**

Timothy Philpot, Ralph Flori, Richard Hall, Nancy Hubing, David Oglesby, and Vikas Yellamraju. "Games as Teaching Tools in Engineering Mechanics Courses."

# Annual Business Meeting Minutes (draft)

Minutes – Engineering Mechanics Division, Annual Business Meeting

Wednesday, June 25, 2002, 12:30 p.m.

Nashville Renaissance Hotel, Nashville, Tennessee

Attendees: Ralph Flori, Brian Self, Renata Engel, Tim Philpot, Andrew Pytel, Scott Danielson, Sudhir Mehta, Joe Rencis, Phil Cornwell, Chris Masters, Mike Magill, George Staab, Arnold Lumsdaine, Autar Kaw, Keith Mazachek, Jennifer Kadlowec, Nancy Denton

1. Welcome and introductions (Flori)
2. Approval of 2002 Business Meeting Minutes (Philpot)
3. 2003 Award Recipients
  - A. Awards
    - New Educator: Jennifer Kadlowec, Robert Carpick
    - James L Meriam Service Award: Lia Brillhart
    - Archie Higdon Distinguished Educator Award: Autar Kaw
4. Reports from Division Officers
  - A. Program Chair – Sudhir Mehta
    - All scheduled papers were presented.
    - Attendance ranged from 40 – 81.
    - 40 attendees at banquet on Tuesday night
    - The division got most of the sessions we requested from ASEE
    - Nancy: it's important to communicate with the PIC III representative before November to explain the rationale for requested session times.
    - Sudhir: Should we move the banquet from Tuesday to Monday night?
  - B. Program Chair-Elect – Scott Danielson
    - Scott will request 5 technical sessions from ASEE:
      - ◆ Two sessions Monday afternoon
      - ◆ Two sessions Tuesday morning
      - ◆ One session Wednesday morning
    - The 7 am session on Monday morning was well attended
      - ◆ Discussion of alternatives
    - Banquet discussion
      - ◆ Should we have a reception immediately preceding the banquet on Monday?
      - ◆ Having something special to accomplish might make funding more likely? For example, multimedia computer demos presented for new mechanics educators.
      - ◆ McGraw-Hill should be consulted about the implications of moving the banquet to Monday night (tentatively)
    - Do we need both an executive and a general business meeting?
      - ◆ Eliminating the executive meeting would require a change in the bylaws.
      - ◆ Planning on Monday is an argument for keeping the present executive/general format.
      - ◆ At this point, we'll keep the two meetings but try to differentiate the agenda.
      - ◆ Maybe we can distribute paper reports to the general meeting after approval by the executive committee.
  - C. Secretary – Tim Philpot
    - No report.
  - D. Treasurer – Christine Masters
    - The division has a gain of about \$1,000 compared to last year.

- The division must be aware that the division officers must continue to go to the publishers to keep the income stream intact.
  - Who is to contact the book publishers?
    - ◆ Awards chair
    - ◆ Following this meeting, a thank you letter should be sent to each of the book publishers with some brief comments about how the money was spent.
- E. Awards Committee
- Autar Kaw to serve on Awards Committee.
- F. Membership Committee – (Rencis)
- Membership Committee Guidelines were distributed to the attendees.
  - Dwight Wardell – ASEE Director for Membership Services – Could he provide names of non-aligned ASEE members?
  - Nancy Denton to be chair of Awards Committee. Also serving on the committee are Joe Rencis and Brian Self.
5. Announcements and Appointments (Flori)
- A. Jennifer Kadlowec is Program Chair – Elect
- B. Phil Cornwell and Chris Masters nominated for executive committee. Motion to affirm approved.
- C. Ralph presented a list of officers for the past six years
6. PIC Report (Magill/Flori)
7. PIC Chair Report (Denton)
- A. Lots of international activities going on
- B. International coordination taskforce
- C. K-12 activities are growing
- Reduced charge ASEE membership rates
  - “Go for It!” brochure aimed at 9<sup>th</sup> and 10<sup>th</sup> graders
- D. Best paper process has changed some and will likely be changed more
- Scoring rubric
  - Avoiding conflict of interest
- E. Review of division organizations
- Anticipating a report
- F. 2008 Conference – change of venue – Pittsburg will replace Reno as the host city.
- Delays in completion of Reno hotel
- G. \$35 surcharge if you submit a paper
- H. 2003 Registration form in Prism appeared late – in April
- I. Division officers need dates for the Call to Papers that will be handed out during each conference.
8. 2003 Program Discussion (Mehta)
9. Old Business
- A. Mike Magill to be the keeper of the operating manual (in digital format).
- Suggested that various officers be the agents for changing the operating manual.
  - Reminder to be sent to officers asking for review of operating manual.
10. New Business
11. Other Business
- A. Chris Masters: McGraw-Hill has offered to set up a web site of Hands-on-Mechanics.
- B. Joe Rencis: Rather than simply providing links, Joe would like to keep as much division website material as possible on his local machine to ensure up-to-date links. Also, provide meta tags to facilitate searching.
12. Meeting Adjourned at 2:32 pm

# AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Salt Lake City, Utah

June 20-23, 2004



## Mechanics Division

The Mechanics Division of ASEE is soliciting papers and reviewers for the 2004 Annual Conference that will be held in Salt Lake City, Utah, from June 20-23, 2004. The division awards best session presentation award for each of its sessions, overall best division paper, and overall best division presentation. Papers and presentations from all areas of engineering mechanics, vibrations, and acoustics will be considered. Suggested topics include but are not limited to:

- Trends in Mechanics Education: global mechanics' education issues
- Projects and Labs: innovative activities in mechanics' classes and laboratories
- Statics and Dynamics: improving statics and dynamics instruction
- Mechanics of Materials: improving mechanics of materials classes
- Innovations in Teaching Mechanics: classroom, laboratory or computer-based teaching innovations

Possible Mechanics Division Sessions at the conference are as follows. If you wish, you may suggest the session (like A, C, etc) for which you are submitting the abstract or would like to review the papers.

### **A. Trends in Mechanics Education**

This session takes a global view of mechanics education issues that transcend classroom, such as overall curriculum changes, historical perspectives, results of surveys, and future trends.

### **B. Innovative Hands-on Projects and Labs**

This session focuses on innovations in hands-on activities in conventional and non-conventional mechanics classes and laboratories.

### **C. Improving Statics and Dynamics Instruction**

This session focuses on efforts to improve statics and dynamics instruction, including in-class, hands-on, and technology-based activities.

### **D. Improving Mechanics of Materials Instruction**

This session focuses on efforts to improve mechanics of materials classes at undergraduate and graduate levels through the use of design projects, innovative teaching methods, hands-on activities, and computer-based tools.

### **E. Innovations in Teaching Mechanics**

This session focuses on innovative classroom and laboratory teaching methods and strategies relating to the broad area of mechanics.

## Call for Papers (continued)

Abstract Deadline: **October 29, 2003**  
Full-Length Paper Deadline: **December 1, 2002**

Abstract submission will begin on August 6, 2003 and **end at 3:00 p.m. EST on October 29**. All abstracts must be submitted electronically through the CAPS system at [www.asee.org/conferences/annual2004/caps](http://www.asee.org/conferences/annual2004/caps). Each abstract should be between 300-350 words and submitted to the ASEE Division that best suits the content of the abstract. Please note that authors may not submit the same abstract to multiple divisions. If accepted, complete papers will also be submitted via CAPS. Please check the CAPS website or *Prism* magazine for submission deadlines.

## CAPS

### Deadlines

#### Abstract Deadlines

- August 6 – Abstract submission opens via CAPS.
- October 29 (3 pm EST) – Abstract submission closes.
- October 30 – Abstract review begins.
- November 12 – Abstract review ends.
- November 20 – Reviews for Multimedia session ends.

#### Paper Deadlines

- December 3 – Draft paper Submission opens via CAPS.
- January 14 (3 pm EST) – Draft paper submission ends.
- January 15 – Draft paper review begins.
- February 18 – Draft paper review ends.
- February 19 – Final paper submission begins via CAPS.
- March 17 (3 pm EST) – Final paper submission ends.
- March 24 – Final Reviews of Accepted pending changes papers ends.

Questions may be directed to the 2003-04 Mechanics Division Program Chair:

Dr. Scott Danielson  
Mechanical & Manufacturing Engineering Technology Dept.  
Arizona State University East  
Mesa, AZ 85212  
Phone: (480) 727-1185  
E-mail: [sdanielson@asu.edu](mailto:sdanielson@asu.edu)

**2003/2004 MECHANICS DIVISION OFFICERS**

**Chair:** Sudhir Mehta, North Dakota State University  
(701) 231-7871, sudhir.mehta@ndsu.nodak.edu

**Past Chair:** Ralph Flori, University of Missouri – Rolla  
(573) 341-4588, reflori@umr.edu

**Program:** Scott Danielson, Arizona State University East  
(480) 727-1185, sdanielson@asu.edu

**Program Chair Elect:** Jennifer Kadlowec, Rowan University  
(856) 256-5344, kadlowec@rowan.edu

**Secretary:** Timothy A. Philpot, University of Missouri – Rolla  
(573) 341-4285, philpott@umr.edu

**Treasurer:** Madhukumar Vable, Michigan Technological University  
(906) 487-2747, mavable@mtu.edu

**Webmaster:** Joseph J. Rencis, Worcester Polytechnic Institute  
(508) 831-5132, jjrencis@wpi.edu

**Archivist:** Ralph Flori, University of Missouri – Rolla  
(573) 341-4588, reflori@umr.edu

**Executive Committee Members:** Arya Ebrahipur, Idaho State University  
(208-282-4695, ebraarya@isu.edu)

Dan Jensen, USAF Academy  
(719) 333-7946, dan.jensen@usafa.af.mil

Jennifer Kadlowec, Rowan University  
(856) 256-5344, kadlowec@rowan.edu

Karim Nohra, University of South Florida  
(813) 974-5594, nohra@eng.usf.edu

Martin Pike, Purdue University  
(765) 455-9291, mapike@purdue.iuk.indiana.edu

Brian Self, USAF Academy  
(719) 333-2517, brian.self@usafa.af.mil