



# Mechanics Division

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## *NEWSLETTER*

August 2001

Chair: Michael A. Magill  
Secretary: Timothy A. Philpot

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### Mechanics Division of ASEE

#### Message From the Chair

I assume most of you have started your Fall Semester and the Summer Break is history! Let me begin by reviewing the **2001 ASEE Annual Conference**. I wish to thank to the many individuals that made the Mechanics Division Program a big success. Thanks to the Session Moderators, Elliot Eisenberg, Nancy Ma, Phillip Cornwell, Mir Atiquallah, and Scott Danielson. Your hard work is greatly appreciated. I also wish to Ralph Flori and Bob Hastie for an outstanding banquet. In my opinion, hearing from Ferdinand P. Beer and E. Russell Johnston, Jr. was the highlight of the conference. They are true pioneers in our field.

Just a quick word about the **2002 ASEE Annual Conference & Exposition**...the conference will be held in Montreal, Quebec, Canada on June 16-19, 2002. More information on the conference is available at <http://www.asee.org/conferences/annual2002/>. All abstracts and papers can be submitted online at the same address. The abstract submission deadline is November 1<sup>st</sup>.

Elliot Eisenberg continues to bring us **good news!** This past year McGraw-Hill committed \$1500 annually to support the New Mechanics Educator Awards. Since last year, Elliot has spoken with both Prentice-Hall and Wiley Publishing about participating in the Mechanics Division awards. Prentice Hall has agreed to annually support the Archie Higdon Distinguished Educator Award in the amount of \$500. In addition, Wiley Publishing will be providing \$600 per year for the James L. Meriam Service Award. I wish to give a special thanks to McGraw-Hill, Prentice Hall, and Wiley Publishing. And thanks to you, Elliot!

We are currently in the final phase of merging with the **Acoustics Division**. This merging will be mutually beneficial. We look forward to their participation with us.

I am honored to serve as this year's chair for the Division. I'm amazed at the long-term stability and continuous membership support within our Division. The Mechanics Division has a long history of serving the engineering mechanics community. And finally, I'd like to thank Bob Hastie. Bob did an excellent job of leading the Division this past year, and I'm sure I'll be seeking his wisdom throughout this next year.

Have a great school year!

Michael Magill  
Mechanics Division Chair, 2001-2002  
[mamagill@tech.purdue.edu](mailto:mamagill@tech.purdue.edu)

## ***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 which 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, 2002**. Point of contact for submission of nominations or for additional information is Professor Elliot Eisenberg, Penn State Hazleton, 76 University Drive, Hazleton, PA 18202; telephone: 570 788-3057; email: exe3@psu.edu.

# **Mechanics Division - 2001 ASEE National Conference in Albuquerque**

## ***BEST PAPER AND BEST PRESENTATION AWARDS***

### **Best presentation in each session**

#### **Session 1668 – Innovative Teaching in Mechanics I**

*New Approaches in Teaching Undergraduates Dynamics at the US Air Force Academy*

Brian Self, USAF Academy

#### **Session 2168 – Innovative Lab and Design Projects**

*An Animated Mechanics Classroom*

Robert Carpick, University of Wisconsin

#### **Session 2268 - Innovative Teaching in Mechanics II**

*“Catastrophic Failures”, “Designed for Failure”, and “Adventures in Mechanics” One Credit Freshman “Mechanics” Seminars*

Clifford Lissenden, Penn State University

R.P. McNitt, Penn State University

#### **Session 2468 – Mechanics Instruction Using the Computer**

*Instructional Resources for Teaching Statics in the 21<sup>st</sup> Century*

Scott Danielson, Arizona State University-East

Sudhir Mehta, North Dakota State University

#### **Session 3268 - Innovative Teaching in Mechanics III**

*The Los Alamos National Laboratory Dynamics Summer School - A Mechanics Motivator*

Phillip Cornwell, Rose-Hulman Institute of Technology

Charles Farrar, Los Alamos National Laboratory

### **Best Overall Presentation**

#### **Session 2168 – Innovative Lab and Design Projects**

*An Animated Mechanics Classroom*

Robert Carpick, University of Wisconsin

### **Best Overall Paper**

*The Los Alamos National Laboratory Dynamics Summer School - A Mechanics Motivator*

Phillip Cornwell, Rose-Hulman Institute of Technology

Charles Farrar, Los Alamos National Laboratory

## Annual Business Meeting Minutes - Albuquerque - June 27, 2001

Attendees: R. Flori, Ing-Chang Jong, B. Dewey, J. Rencis, F. Beer, J. Kadlowec, E. Eisenberg, E. Bell, H. Kuznetsov, B. Self, M. Pike, N. Madsen, R. Engel, C. Masters, N. Denton, G. Kraige, A. Pytel, D. Morris, D. Oglesby, M. Magill, R. Hastie

1. Called to order 1:17 PM.
2. Minutes were accepted and approved.
3. Glenn Kraige: Report on award recipients.
4. New executive committee members: Scott Danielson, Dan Jenson. No new nominees. Both were unanimously voted for and approved.
5. New Secretary: Tim Philpot from UM-Rolla.
6. New Treasurer: Christine Masters, Penn State.
7. Ralph Flori will continue as Archivist.
8. Membership committee: Volunteers? Nancy Denton. How increase membership?  
Follow up on new educator's award.  
Involve acoustics & vibrations members. Session on mechanics/vibrations.
9. Awards committee: Bob Mott is the new member.
10. Software committee: New member will be Nels Madsen.
11. Paper review process? Reviewers send marked papers to session moderators, who forward them to authors.
12. People who have expressed interest in serving somewhere: John Baker, Alamgir Choudhury.
13. Solid Mechanics: Eric Bell.
14. Dynamics: Brian Self.
15. Fluids Committee: To be filled by Mike Magill as new chair. Advertise in newsletter? Nancy knows a new faculty member at Purdue. Nancy Ma?
16. Need new committee on Acoustics & Vibrations? Or combine with Dynamics? Mike Magill will contact Jim Jones regarding what they want. Suggested names for the committee?
17. Treasurer report? BASS Acct: \$2615.57. Operating: \$1080. Neither includes McGraw Hill money for awards, nor award expenses. ASEE board has approved use of Operating monies for almost any use that strengthens the division.
18. Membership? No report. Has increased, esp. w/ addition of acoustics & vibration members. Bob Hastie encouraged each one present to recruit at least one new member.
19. Handed out 1998 version of Operating Manual to new officers. Renata will email this to others. Operating manual needs to be reviewed and reworked. Suggestion (Renata): Have each officer give changes for their tasks. Mike Magill will solicit these from officers. Changes to be made by next summer (2002).
20. Mechanics Division web site?
21. New PIC Chair: Nancy Denton!
22. New method for best paper for conference. Divisions send best papers to PIC, best for each PIC are sent to ASEE.
23. New ASEE bylaws: Will allow email voting for awards.
24. New ASEE awards: Keilor Award (for a woman...). Nominate one of our members! Quinn Award for outstanding developments in laboratories.
25. Priority: K-12 education and minorities.
26. New ASEE website: Learnon.org.
27. Complimentary registrations? ASEE will look at this. For us, this affects our guest speaker for the banquet.
28. Conference has grown. More papers this year.
29. New CAPS system this year. ASEE has own system this next year instead of contracting it out.
30. Program report (Mike Magill): 40 abstracts submitted; 20 accepted. Time slots were adjusted by ASEE, resulted in a 7:00 AM Tues slot. (Better than late Wednesday afternoon).

31. Session attendance: Monday (45), Tues 7:00 AM (33); Tues 8:30 AM ( )
32. Banquet went well.
33. How determine best presentation awards? Mike Magill has those forms. Renata: Look for one that has overwhelming votes. Formalize this? Every year appoint a three member committee who attend all sessions and make this determination? ASEE standard form is not very good for evaluating the presentations. Come up with a Mechanics division form.
34. Ralph Flori report: Solicit moderators for next year. Session names? Interactive type sessions like what Nels did? Hands-on event on Sunday, perhaps sponsored by Measurements Group? Instead of giving papers, have presenters give 1 minute summaries, then together be a panel and give a discussion.
35. Paper on creativity?
36. Renata: Dramatic presentation demonstration?
37. Joe Rencis: Mechanics Survey? Sent out 300 surveys, received 100 back. Data being tabulated. Will write a paper for next year. Joe and Elliot.
38. New descriptions of Archie Higdon and B & J New Mechanics Educator awards? Motion made, seconded, and approved. (Include in operations manual, also in ASEE awards descriptions, too.)
39. New funding from Prentice Hall for Archie Higdon award? They have approved this, tentatively.
40. Division service award.

## **Computer-Based Resources for Engineering Mechanics Education**

In this feature, we will provide links to various sites on the Internet pertaining to engineering mechanics education. Your help is needed. If you have or know of educational material on the Internet or software that pertains to basic engineering mechanics that you are willing to share with colleagues teaching in this area, you are invited to send these links to Tim Philpot ([philpott@umr.edu](mailto:philpott@umr.edu)) for inclusion in future editions of the newsletter. These links will be collected and centralized at <http://www.umn.edu/~mechdiv>

*National Statics Clearinghouse*

<http://www.ndsu.nodak.edu/instruct/mehta/NSC/>

*The MECH SITE, Your Guide to Mech Eng*

<http://www.mech.f2s.com/>

*University of Nebraska, Experimental Program to Electronically Provide Course Related Materials*

<http://em-ntserver.UNL.EDU/>

*University of Wisconsin - Stout*

<http://physics.uwstout.edu/statstr/index.htm>

*Leicester University, Engineering Mechanics Self Assessment Tutorials*

[http://www.lboro.ac.uk/faculty/eng/engtlsc/Eng\\_Mech/tutorials/tut\\_index.htm](http://www.lboro.ac.uk/faculty/eng/engtlsc/Eng_Mech/tutorials/tut_index.htm)

*Virginia Tech, engAPPLETS, Java Applets for Engineering Education*

<http://www.engapplets.vt.edu/>

*Edinburgh Engineering Virtual Library*

<http://www.eevl.ac.uk/index.html>

*Iowa State University, Mohr's Circle Applet*

<http://www.iastate.edu/~em324/examples/mohrcircle/mohrapplet.html>

*NEEDS, The National Engineering Education Delivery System, A Digital Library for Engineering Education*

<http://www.needs.org/>

# AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Montreal, Quebec

June 16-19, 2002



## Mechanics Division

The Mechanics Division of ASEE is soliciting papers for the 2002 Annual Conference that will be held in Montreal, Quebec from June 16-19, 2002. Papers and presentations from all areas of engineering mechanics and vibrations will be considered. Suggested topics include:

- Basic mechanics in the integrated curriculum.
- Design projects for fundamental engineering mechanics courses.
- Innovative teaching methods in mechanics including software development and multimedia tools.
- Laboratory and experiment developments in mechanics education.

*Abstract Deadline:* November 1, 2001

*Full-Length Paper Deadline:* December 1, 2001

Authors must submit abstracts and full-length papers via the ASEE CAPS system, which may be accessed at: <http://www.asee.org/conferences/CAPS/System/index.cfm>. Authors are also encouraged to send an electronic version of the abstract and full-length paper via e-mail to [reflori@umr.edu](mailto:reflori@umr.edu).

Questions may be directed to the 2001-02 Mechanics Division Program Chair:

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### Scheduled Mechanics Division Sessions for 2002 Annual Meeting in Montreal, Quebec

*(Note: These sessions are current as of 8/31/01; however, sessions and times are subject to change.)*

<b>Session Code</b>	<b>Day</b>	<b>Time</b>	<b>Session Type</b>	<b>Title</b>
1368	06/17/2002	10:30am-Noon	TS - Technical Session	Trends in Mechanics Education
1468	06/17/2002	12:30–2:00 pm	BM - Business Meeting	Mech. Div. Exec. Committee Mtg/Lunch
1768	06/17/2002	6:30–8:00 pm	RE - Reception	Mechanics Division Reception
2268	06/18/2002	8:30–10:15 am	TS - Technical Session	Innovation in Teaching Mechanics I
2368	06/18/2002	10:30am-Noon	TS - Technical Session	Innovative Lab and Design Projects
2568	06/18/2002	2:30–4:15 pm	TS - Technical Session	Innovative Teaching in Mechanics II
2768	06/18/2002	6:30–8:30 pm	D - Dinner	Mechanics Division Annual Banquet
3268	06/19/2002	8:30–10:15 am	TS - Technical Session	Mechanics Instruction Using the Computer
3468	06/19/2002	12:30–2:00 pm	BM - Business Meeting	Mechanics Div Lunch & Business Meeting