



Mechanics Division

NEWSLETTER

Fall 2006

Chair: Christine Masters
Secretary: Paul S. Steif

Visit the Mechanics Division Website: <http://comp.uark.edu/~jjrencis/aseemechanics/>

Message from the Chair

Dear Mechanics Educators:

Welcome to another great year of mechanics education. I hope your fall semester is going well as we head to the holiday season and the New Year with hope and enthusiasm for the future, both professionally and personally.

The 2006 ASEE Annual Conference in Chicago, IL, was a successful one for the Division. It was great to see many familiar faces and several new faces at the Mechanics Division functions. I hope you all found the networking time enjoyable and the Mechanics Division sessions informative and useful. This year, we sponsored or co-sponsored a total of six sessions. Three of these sessions represented an exciting new venture to join forces with the Civil Engineering and Mechanical Engineering divisions to offer unified session on the core subjects of interest to all: Statics, Dynamics, and Mechanics of Materials. These sessions were very well attended and I look forward to seeing this collaboration continue and grow. Thank you to all of our authors, presenters, abstract and paper reviewers and session moderators (Peter Avitabile, Asghar Bhatti, Ralph Flori, Dan Jensen, Benson Tongue, Madhu Vable, Julie Wang, and Nash Younis) for their efforts. A special thanks to Madara Ogot and Kristen Sanford Bernhardt, the 2006 program chairs for the ME and CE divisions of ASEE, for working with me to make the joint sessions a valuable enhancement to the technical program of all three divisions.

As we continue our division membership drive, please inform your colleagues about the Mechanics Division and suggest they join. For their first year of membership, the \$2.00 *division dues will be waived*. Please pass the form included later in the newsletter to interested individuals in any department where mechanics education plays a key role.

The new Monday morning executive committee meeting was well attended and opened up the popular Monday noon time for another Mechanics Division technical session. Our standard Wednesday noontime business meeting was very well populated with 22 members in attendance! Thanks to all who attended these business meetings, as they are important to the functioning of the Division. If you were able to attend one or both of these meetings last year, I hope to see you again at the meetings in 2007. If you have not yet attended a business meeting, I encourage you to take the time at the 2007 conference to come and provide your valuable input to the operations of the division. Our business meeting is typically held during the 12:30 to 2:00 slot on Wednesday afternoon. Look for it in the 2007 program.

At our annual Mechanics Awards Banquet, we were privileged to have Jim Orrico, of SRAM Corporation, headquartered in Chicago, IL, speak to us about the research and development of cutting edge bicycle components. We also presented the Division's awards to the very deserving group of awardees. A complete list of the award winners is found later in the newsletter.

Tim Philpot, the 2007 Mechanics Division Program Chair, is putting together another great line-up of papers and sessions for next year in Honolulu, Hawaii. I hope you plan to join us from June 24 to 27 for what will be another exciting conference. Thank you to those who have submitted an abstract to the division. If your abstract was accepted, I encourage you to complete the full paper for review and presentation. Also, please prepare nominations for the Mechanics Division awards by thinking about your colleagues that have made a difference in Mechanics Education. A call for awards is included in this newsletter. The deadline for nominations is January 31, 2007, so don't delay!

I would like to thank Jennifer Kadlowec, the former division chair, for her leadership and continued availability to answer questions as I prepared for last year's program. I would also like to thank Tim Philpot for taking care of the banquet details and smoothly handling the last minute change in the guest speaker. And finally, I am extremely grateful to the many volunteers who reviewed abstracts and papers for last year's program. The quality of the sessions was almost entirely due to your comments and suggestions to the authors. If you have any comments, questions, or suggestions about the Mechanics Division, please do not hesitate to let me know. Have a great year and check out the division website, maintained by Joe Rencis: <http://comp.uark.edu/~jjrencis/aseemechanics/>.

Christine Masters, 2006-2007 Mechanics Division Chair

Call for Award Nominations (Due by January 31, 2007)

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 which delineate the nominee's contribution to mechanics education,
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,
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,
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, 2007**.

Point of contact for submission of nominations or for additional information is Professor Nancy Denton, Purdue University, Department of Mechanical Engineering Technology, Knoy Hall, Room 137, 401 N. Grant Street, West Lafayette, IN 47907-2021; telephone: 765-494-7517; fax: 765-494-6219. Electronic submissions will also be accepted by sending the nomination materials to dentonnl@purdue.edu.

Post Conference Notes

Mechanics Division - 2006 ASEE National Conference in Chicago Illinois

Best Paper Award

“Integrating Matlab Graphical User Interface in Statics Course”, Nidal Al-Masoud, Central Connecticut State University

Best Paper Presentation Awards

Session 1368 – What’s New in Statics?

Paul Steif, “Feeding Back Results from a Statics Concept Inventory to Improve Instruction.”

Session 1466 – What’s New in Dynamics?

Stephen Pennell, “An Interwoven Multisemester Dynamic Systems Project to Integrate STEM Material.”

Session 1568 – What’s New in Mechanics of Materials?

Joseph Rencis, “A New Approach to Solve Beam Deflection Problems Using the Method of Segments.”

Session 2168 – Back to Basics in Mechanics

Thomas Malmgren, “The ‘Back to the Future’ Experience of Graphical Analysis.”

Brian Houston and Robert Martinazzi, “Five Surprises: The Key to Re-Engineering the Traditional Quizzes.”

Session 2468 – Teaching with Technology in Dynamics and Mechanics of Materials

Thomas Nordenholz, “Animation as the Final Step in the Dynamics Experience.”

Session 3568 – Innovative Teaching Techniques in Mechanics

Louis Everett, “The Effect Technology and a Structured Design Problem has on Student Attitudes About Theory in a Dynamics Class.”

Overall Best Paper Presentation in the Mechanics Division

Thomas Nordenholz, “Animation as the Final Step in the Dynamics Experience.”

Congratulations to everyone!!

Annual Business Meeting Minutes (draft)

Minutes – ASEE Mechanics Division

Business Meeting

Wednesday, June 11, 2006, 12:30 PM

Chicago Hyatt Regency

Attendees: Asghar Bhatti, Bob Pieri, Lia Brillhart, Phil Cornwell, Scott Davidson, Nancy Denton, Anna Dollár, Michael Hardin, Ing-Chan Jong, Jennifer Kadlowec, Autar Kaw, Helen Kuznetsov, Mike Magill, Christine Masters, Dave Myszka, Shahnam Navace, Chris Papadopoulos, Tim Philpot, Brian Self, Paul Steif, Benson Tongue, Madhu Vable

1. Welcome/Introductions (Kadlowec)
2. Approval of 2005 Business Meeting Minutes (Steif)
3. 2006 Award Recipients (Kaw)
 - Clive Dym chosen for the Archie Higdon Distinguished Educator Award
 - Tammy Donahue, James Hanson, and Chris Papadopoulos chosen for the Beer and Johnston Outstanding New Mechanics Educator Award
 - Joe Rencis chosen for the James L. Meriam Service Award
 - Best Paper: Integrating Matlab Graphical User Interface in Statics Course, Nidal Al-Masoud, Central Connecticut State University.
 - Best Presentation (from the 2005 Annual Conference): The Dynamics Concept Inventory Assessment Test: A Progress Report and Some Results, Gary Gray, Pennsylvania State University, University Park, Francesco Costanzo, Pennsylvania State University, University Park, Don Evans, Arizona State University, Phillip Cornwell, Rose-Hulman Institute of Technology, Brian Self, U.S. Air Force Academy, Jill Lane, Pennsylvania State University, University Park.
4. Reports from Division Officers
 - a. Program Chair (Masters)
 - Conference went well. Thanks to reviewers and session moderators.
 - 34 abstracts submitted, 31 invited to submit papers for review. Of these, 23 were accepted and will appear in the proceedings.
 - 6 technical sessions, including three joint sessions with Mechanical and Civil Engineering Divisions on statics, dynamics and mechanics of materials.
 - Civil Division wants to do joint sessions again. Waiting to hear from Mechanical. Sessions were well attended
 - b. Program Chair-Elect (Philpott)
 - Peak attendance at five sessions that occurred thus far were: 70, 45, 50, 40, and 40.
 - c. Secretary (Steif)
 - No report
 - d. Treasurer (Vable)
 - BASS account started year at \$5145.28 and ended year at \$5976.65. Some expenditures still to be made for awards.
 - Brian Self to take over position of Treasurer.
 - e. Membership Committee (Rencis/Self)
 - Currently we have 445 members, compared with 457 last year.
 - We will cross-solicit with other divisions whose members might also be interested in the mechanics division.
5. Announcements and Appointments
 - a. Program Chair-Elect (Kadlowec)
 - Program Chair-Elect for 2006-2007 will be Benson Tongue.

- b. Executive Committee Election (Danielson/Mehta)
 - Nominees for two positions on Executive Committee are Gary Gray and Dave Myszka. Motion to accept these nominations by acclamation was passed.
- c. Standing Committees Appointments(Kadlowec)
 - Members for standing committees solicited from attendees
6. PIC Report (Kadlowec/Danielson)
 - Program next year based on Year of Dialogue
 - Discussion that rigor of papers in division might be raised if there were two categories of papers: research oriented and papers about “here’s what I tried in my classroom”. Suggestion of Work in Progress papers, like FIE; could involve shorter presentation time or poster session
 - Discussion of putting on division web site noteworthy papers or links to such papers as might be of general interest to mechanics educators.
7. PIC Chair Report (Pomeranz)
 - Members should submit any requests to Shirley who is our liaison to the ASEE Board
8. New Business (Kadlowec)
 - Discussion of revision to bylaws to expand group of individuals to be considered for Program Chair-Elect (and succession of leadership position). General agreement to allow all members of Executive Committee to be considered, to allow period of tenure on the Executive Committee to extend beyond the four years if elected to leadership position, and to allow for associated increase in total members of Executive Committee. Kadlowec to draft language to change bylaws.
9. Passing of the Banner (Kadlowec)
10. Adjournment at 2:00 PM (Masters)

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Add
Postage

Professor Joseph J. Rencis
Department of Mechanical Engineering
204 Mechanical Engineering Building
University of Arkansas
Fayetteville, AR 72701-1201

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2006/2007 MECHANICS DIVISION OFFICERS

Chair:	Christine Masters, Penn State University (814) 865-6674, cbm100@psu.edu
Past Chair:	Jennifer Kadlowec, Rowan University (856) 256-5344, kadlowec@rowan.edu
Program:	Timothy Philpot, University of Missouri – Rolla (573) 341-4285, philpott@umr.edu
Program Chair Elect:	Benson H. Tongue, University of California, Berkeley (510) 643-8629, bhtongue@me.berkeley.edu
Secretary:	Paul Steif, Carnegie Mellon University (412) 268-3507, steif@cmu.edu
Treasurer:	Brian Self, USAF Academy (719) 333-2517, brian.self@usafa.af.mil
Webmaster:	Joseph Rencis, University of Arkansas (479) 575-3153, jjrencis@uark.edu
Archivist:	Ralph Flori, University of Missouri – Rolla (573) 341-4588, reflori@umr.edu
Executive Committee Members:	Phillip Cornwell, Rose-Hulman Institute of Technology (812) 877-8232, cornwell@rose-hulman.edu Anna Dollár, Miami University (513) 529 - 1875, dollara@muohio.edu Gary Gray, Penn State University (814) 863-1778, gray@enr.psu.edu David Myszka, University of Dayton (937) 229-2968, dmyska@udayton.edu Nashwan Younis, Indiana University-Fort Wayne (260) 481-6887, younis@enr.ipfw.edu