



Mechanics Division

NEWSLETTER

Fall 2005

Chair: Jennifer Kadlowec
Secretary: Paul S. Steif

Message From the Chair

Dear Mechanics Educators:

I would like to extend a greeting on behalf of the ASEE Mechanics Division Officers to all mechanics' educators. I hope that your summer enjoyable and productive and that your new fall semester is off to a great start.

We currently are in the midst of a membership drive. Please inform your colleagues about the Mechanics Division and recommend to them to 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.

The 2005 ASEE Annual Conference in Portland, OR, was a successful one for the Division and, I hope, enjoyable for all of you in attendance. The five Mechanics Division paper sessions were all well attended. Thanks to all of our authors, presenters, paper reviewers and session moderators (Ralph Flori, Nash Younis, Philip Cornwell, Subha Kumpaty, Joe Rencis, Shane Palmquist, Anna Dollar, Brian Self and Madhu Vable) for their efforts. The Mechanics Division also sponsored a design short course lead by Christopher Jenkins.

Our business and the executive committee meetings were also well attended. Thanks to those whom attended these business meetings, as they are important to the functioning of the Division. For those that have not attended a business meeting, I want to invite you to do so next year, as you be welcomed and offered the opportunity to contribute!

At our annual Mechanics Awards Banquet, we were privileged to have Mr. Jeff Winston, of Nike, Inc. in Beaverton, OR, speak to us about the research and development of sporting equipment at Nike. He spoke of topics from shoes to golf and hockey equipment. 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.

Please note the Call for Papers from Christine Masters, Mechanics Division Program Chair, in this newsletter for next year's meeting, June 18-21 in Chicago, IL. Hope you plan to join us for what will be another exciting conference. Please submit an abstract and encourage others to do so as well. Also, please begin to 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.

I'd like to thank Scott Danielson, the former division chair, for his leadership and someone I could count on for guidance as I ran last year's program. I'd also like to thank Christine Masters for assisting me in program and lining up the guest speaker. 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/>.

Jennifer Kadlowec, 2005-2006 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 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, 2006**.

Point of contact for submission of nominations or for additional information is Professor Autar Kaw, University of South Florida, Mechanical Engineering Department, 4202 E Fowler Avenue ENB118, Tampa, FL 33620-5350; telephone: 813-974-5626; fax: 813-974-3539; e-mail: kaw@eng.usf.edu; URL: <http://www.eng.usf.edu/~kaw>. Electronic submissions will also be accepted by sending the nomination materials to kaw@eng.usf.edu.

Post Conference Notes

Mechanics Division - 2005 ASEE National Conference in Portland Oregon

Best Paper Award

“The Dynamics Concept Inventory Assessment Test: A Progress Report and Some Results”, Gary L. Gray, The Pennsylvania State University; Francesco Costanzo, The Pennsylvania State University; Don Evans, Arizona State University; Phillip Cornwell, Rose-Hulman Institute of Technology; Brian Self, United State Air Force Academy; Jill L. Lane, The Pennsylvania State University

Session 1168 – Improving Mechanics of Materials

Dan Jensen, “Enhancing Machine Design Courses Through Use of a Multimedia-Based Review of Mechanics of Materials”

Session 1168 Improving Statics Instruction

Sudhir Mehta, “Research in Statics Education – Do Active, Collaborative, and Project-Based Learning Methods Enhance Student Engagement, Understanding, and Passing Rate?”

Session 2568 – Innovative Teaching Techniques

Jerry Samples, “T.H.I.N.K. Acronym for “Turning Hunches Into New Knowledge”

Session 3268 – Improving Statics and Dynamics

Gary L. Gray, “The Dynamics Concept Inventory Assessment Test: A Progress Report and Some Results”

Session 3568 – Labs, Demos and Software in Mechanics

L. Glenn Kraige, “Unified Lecture Software for Statics, Dynamics, and Mechanics of Deformable Bodies”

Overall Best Paper Presentation in the Mechanics Division

Gary L. Gray, “The Dynamics Concept Inventory Assessment Test: A Progress Report and Some Results”

Congrats to everyone!!

Annual Business Meeting Minutes (draft)

Minutes – ASEE Mechanics Division
Business Meeting
Wednesday, June 15, 2005, 12:30 PM
Oregon Convention Center

Attendees: John Baker, Eric Bell, Asghar Bhatti, Lia Brillhart, Phil Cornwell, Scott Davidson, Anna Dollár, Ralph Flori, Gary Gray, Michael Hardin, Dan Jensen, Ing-Chan Jong, Jennifer Kadlowec, Mike Magill, Christine Masters, Sudhir Mehta, Don Morris, Tim Philpot, Brian Self, Paul Steif, Benson Tongue, Madhu Vable, Nash Younis.

1. Welcome/Introductions (Danielson)
2. Approval of 2004 Business Meeting Minutes (Steif)
3. Reports from Division Officers
 - a. Program Chair (Kadlowec)
 - Conference went well. Thanks to reviewers and session moderators.
 - 51 abstracts submitted (many more than past). 31 accepted, 25 presentations and 22 papers.
 - b. Program Chair-Elect (Masters)
 - Peak attendance at first four sessions were: 44, 64, 61, and 55.
 - Contacts with Civil and Mechanical Engineering Divisions continuing with goal of having joint sessions related to Statics, Dynamics and Mechanics of Materials
 - c. Secretary (Steif)
 - Membership invited to make suggestions as to improvement/additions to the newsletter
 - d. Treasurer (Vable)
 - BASS account started year at \$4118.75 and ended year at \$5145.28. Increase comes largely from dues and from contributions from publishers in support of awards. The current balance of \$4708.90 reflects income and expenditures for awards.
 - e. Awards Committee (Engel)
 - Archie Higdon Distinguished Educator Award: K. R. Rajagopal, Texas A&M
 - Ferdinand P. Beer and E. Russell Johnston, Jr., Outstanding New Mechanics Educator Award: Peter J. Joyce, U.S. Naval Academy; Steve Tung, University of Arkansas
 - Best Paper: 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.
 - Best Presentation (from the 2004 Annual Conference): Teaching Undergraduate Kinetics using LEGO Mindstorms Race Car Competition, Brian Self, U.S. Air Force Academy, John Wood, U.S. Air Force Academy.
 - Contributors: The following publishers have been contacted to thank them for their support in years past, provide them with information about this year's award winners, and to seek their continued support:
 - Pearson Education (formerly Prentice Hall Publishing) for Archie Higdon Distinguished Educator Award
 - McGraw-Hill for Ferdinand P. Beer and E. Russell Johnston, Jr., Outstanding New Mechanics Educator Award
 - CRC Press (formerly Marcel Dekker, Inc.) for Best Paper Award
 - Committee membership will continue to rotate.
 - The membership is urged to suggest nominees, particularly for the Outstanding New Mechanics Educator Award.

- f. Membership Committee (Denton)
 - Currently we have 457 members, compared with 416 last year.
 - New member drive continues, with first year's dues waived.
 - We will cross-soliciting with other divisions whose members might also be interested in the mechanics division.
4. Announcements and Appointments
 - a. Program Chair-Elect (Danielson)
 - Tim Philpott will be Program Chair-Elect for 2005-2006.
 - b. Executive Committee Election (Mehta/Flori)
 - Nominees for two positions on Executive Committee are Benson Tongue and Nash Younis. Motion to accept these nominations by acclamation was passed.
 - c. Standing Committees Appointments(Danielson)
 - Membership: J. Rencis (chair), B. Self, John Baker
 - Awards: A. Kaw (chair), R. Norton, Lia Brillhart
 - Software: A. Bhatti, Eric Bell, John Baker
 - Solid Mechanics: Dan Jensen, Ing-Chan Jong, R. Rosca
 - Dynamics: P. Cornwell, Michael Magill, Benson Tongue
 - Fluids: R. Carpick, W. Krone, P. Joyce
 - A motion was passed to add a Standing Committee in the area of Statics. Committee: Anna Dollár, Michael Hardin, Nash Younis
5. PIC Report (Danielson/Mehta)
 - New PIC Chair is Shirley Pomeranz.
 - For coming year, each division is guaranteed to receive the number of sessions this year minus one. Additional sessions beyond this number will be based on the case that each division makes regarding its needs.
6. New Business (Danielson)
 - Danielson announced that the division by-laws must be amended to include following clause: "Amendments to these bylaws must be approved by the ASEE Board of Directors." That and any additional changes will be sent to membership for final approval next year.
 - Based on the recommendation of the Executive Committee, a motion was proposed to change the Mechanics Division to a publish-to-present division. Only authors who actually completed papers would be allowed to present them at the conference. This would strengthen the division's case for additional sessions in the coming years. Motion passed.
7. Other Business
 - Vable announced that Oxford University Press is interested in sponsoring the Division in some way, with the goal of enhancing and expanding involvement of members in the Division. Several possibilities were discussed, including: sponsoring (partially) the lunch at the Business Meeting, sponsoring an evening social event (e.g. cocktail hour), sponsoring an award honoring a teacher from a local school district, and underwriting the re-establishment of Mechanics Monographs, which could include best Mechanics papers from recent ASEE conferences. Vable will discuss possibilities with OUP and report back.
8. Passing of the Banner (Danielson)
9. Adjournment at 2:00 PM (Kadowec)

AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Chicago, Illinois

June 18 - 21, 2006



Mechanics Division

THE MECHANICS DIVISION of ASEE is soliciting papers for the 2006 ASEE annual conference. The conference will be held in Chicago on June 18-21. Papers and presentations related to mechanics education, practice and assessment in all areas of engineering mechanics instruction from introductory courses in statics, dynamics, and strength of materials to advanced-level topics such as finite elements, fracture mechanics, vibrations, and acoustics will be considered.

Suggested topics include, but are not limited to:

- Projects, laboratories, experiments or demonstrations
- Innovative teaching methods or practices
- Assessment of teaching and learning in mechanics
- Horizontal or vertical curricular integration of mechanics
- Integrating emerging topics in core mechanics courses

Abstracts should be approximately 500 words in length and provide a clear statement of the objective, relevance to mechanics education, assessment methods, and results.

Authors of accepted abstracts will be invited to prepare a full paper for peer review prior to publication in the conference proceedings. Papers must demonstrate an appropriate level of scholarship.

New Mechanics Division “publish-to-present” policy:

With the exception of invited panels, the Mechanics Division requires that a paper be accepted for publication in the conference proceedings if the work is to be presented at the annual conference.

Call for Papers (continued)

Abstracts, papers, and final papers, if accepted, will be submitted electronically through the ASEE Web site, www.asee.org/smoothpaper according to the preliminary deadlines shown below. **Every deadline occurs at 5:00pm on the date listed, no exceptions or extensions.** 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 Smooth Paper. Please check the Smooth Paper website or Prism magazine for final submission deadlines

Abstract Deadlines

- August 22, 2005 - Abstract submission opens via Smooth Paper
- October 5, 2005 - Abstract submission closes
- October 16, 2005 - Abstract review ends

Paper Deadlines

- November 16, 2005 - Draft paper Submission opens
- January 18, 2005 - Draft paper submission ends
- February 15, 2006 - Draft paper review ends
- February 22, 2006 - Final paper submission begins
- March 8, 2006 - Final paper submission ends
- March 15, 2006 - Final Reviews of Accepted pending changes papers ends

The Mechanics Division awards best session presentation for each division session, overall best division presentation and overall best division paper.

Questions may be directed to the 2005-06 Mechanics Division Program Chair:

Dr. Christine B. Masters
Assistant Professor, Engineering Science and Mechanics
212 EES
Penn State University
University Park, PA 16802
Phone: (814) 865-6674
E-mail: cbm100@psu.edu

Fold Here

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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AMERICAN SOCIETY OF ENGINEERING EDUCATION
**** MECHANICS DIVISION ****

Dear Colleague:

If you have an interest in mechanics education, the ASEE Mechanics Division would like to invite you to become a member of our division. Current activities of the division include examining the role of mechanics in undergraduate curricula and encouraging the development and success of mechanics faculty. For your first year of membership, the \$2.00 *division dues will be waived*. If you are interested in joining, please fill out the form below and return it to the address on the reverse side, send the information via e-mail to dentonn1@purdue.edu, or mail the form. During the next few months, you will be sent information regarding various divisional activities. We look forward to hearing from you!

Sincerely,

Joseph J. Rencis	Brian Self
University of Arkansas	US Air Force Academy
Membership Committee of ASEE Mechanics Division	

Name: _____

Title: _____

Department: _____

University/Company: _____

Address: _____

Office Phone #: _____

FAX #: _____

E-mail: _____

Send Division Information (check one): _____ US Mail _____ E-mail (*Preferred*)

2006 Mechanics Division ASEE Annual Conference Call for Papers

The Mechanics Division of ASEE is soliciting papers and reviewers for the 2006 Annual Conference that will be held in Chicago, Illinois from June 18 - 21, 2006. The division awards best session presentation award for each of its sessions, overall best division paper, and overall best division presentation.

Papers and presentations related to mechanics education, practice and assessment in all areas of engineering mechanics instruction from introductory courses in statics, dynamics, and strength of materials to advanced-level topics such as finite elements, fracture mechanics, vibrations, and acoustics will be considered.

Suggested topics include, but are not limited to:

- Projects, laboratories, experiments or demonstrations
- Innovative teaching methods or practices
- Assessment of teaching and learning in mechanics
- Horizontal or vertical curricular integration of mechanics
- Integrating emerging topics in core mechanics courses

Submit abstracts by 5:00 pm EST, October 5th, 2006 at the ASEE website (www.asee.org/smoothpaper).

- Chair:** Jennifer Kadlowec, Rowan University
(856) 256-5344, kadlowec@rowan.edu
- Past Chair:** Scott Danielson, Arizona State University East
(480) 727-1185, sdanielson@asu.edu
- Program:** Christine Masters, Penn State University
(814) 865-6674, cbm100@psu.edu
- Program Chair Elect:** Timothy A. Philpot, University of Missouri – Rolla
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- Brian Self, USAF Academy
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