



Mechanics Division

NEWSLETTER

January 2001

Chair: Robert L. Hastie, Jr.
Secretary: John J. Lesko

The New School Year 2000-2001

Welcome to the true start of the New Millennium. I hope that each of you are getting your classes and research off to a good start after some time with family and friends refreshed. I hope you will take some time to read through this ASEE Mechanics Division Newsletter.

Included in this issue is a summary of the upcoming ASEE Annual Conference in Albuquerque, New Mexico, Mechanics Division Program as organized by Michael Magill. Please take some time to consider the papers and activities planned. We look forward to seeing you at the meeting for a time of fellowship and learning.

In news on "What's New in Mech Ed" I have added a piece that presents perhaps a less technical perspective on how we as students of Mechanics are connected to the world around us and what it might mean on how we educate our students.

We continue to appreciate all of those folks that have helped to reduce the cost of sending the newsletter by requesting an e-mail version of the newsletter. We (Bev and I) will also try to get a PDF version out to you all as well. Again, if you are currently receiving the printed version and are willing to receive an e-mail/PDF version instead, please send me (jlesko@vt.edu) your e-mail address. Sending e-mail versions is less work and less expensive than producing a printed copy. We presently have reduced the number of hard copies mailed by 21% and would like to continue reducing those costs.

With best regards,

Jack Lesko
Mechanics Division Secretary, jlesko@vt.edu

In this newsletter:

- 1) Message from the Chair
- 2) Mechanics Division Conference Schedule
- 3) What's New in Mech Ed
- 4) Announcement - 14th U.S. National Congress of Applied Mechanics
- 5) 2000/2001 Mechanics Division Officers/Executive Committee Members

MESSAGE FROM THE CHAIR

I'm amazed how fast 2000 came and went. Now that January is almost over, the Annual Conference in Albuquerque is in our sights and quickly approaching. Mike Magill has been busy putting together the program and is handling the challenge of organizing all the paper reviews exceptionally well before the 5 February 2001 acceptance deadline. Please support him with quick, but thorough, reviews so we can maintain the Mechanics Division's reputation for quality papers and presentations. If you have not done your conference registration and hotel room reservation, now is the time. If you are budget conscious, the Fairfield Inn and Radisson near the airport are my favorites. They are newer hotels where the Air Force sends overflow visitors to the base. Nice pool and hot tub at both with a morning breakfast included in the room cost.

I was underwhelmed with ideas from everyone (zero if you were counting) for improving how we motivate and educate our students and ideas to help us plan for future technological changes. I guess I forgot to mention, I'd buy a drink for the best ideas at the annual conference in my last message! I'll even extend that drink offer to good teaching ideas submitted to the newsletter. Hopefully some simple bribery will motivate everyone to slam the keyboard and share all the great teaching ideas you use everyday. I'll organize the thoughts submitted and present them at our division meeting at the conference this summer.

Finally, a simple pass/fail test. Did you reach out to someone and invite them to join ASEE and the Mechanics Division? YES you pass, NO you fail. Good news is I offer makeup exams. So if you failed you still have a chance to pass by just reaching out and inviting just one person to get involved in ASEE and the Mechanics Division. Hope to see you at the conference this year. Don't be surprised if you're asked if you passed or failed this simple test.

Bob

Robert L. Hastie, Jr.
Mechanics Division Chair, 2000-2001
Robert.Hastie@DTRA.MIL
Hastie.RVJ@worldnet.att.net

MECHANICS DIVISION SCHEDULE

2001 ASEE National Conference
Albuquerque, New Mexico
June 24-27, 2001

Monday, June 25, 2001

12:30 p.m. - 2:00 p.m. **Session 1468 - Mechanics Division Executive Committee Meeting/Lunch**

Moderator: Bob Hastie, DTRA/CPOH

4:30 p.m. - 6:00 p.m. **Session 1668 - Innovative Teaching in Mechanics I**

Moderator: Elliot Eisenberg, Pennsylvania State University-Hazleton

6:30 p.m. - 8:00 p.m. **Session 1768 - Mechanics Division Reception**

Moderator: Bob Hastie, DTRA/CPOH

Tuesday, June 26, 2001

7:00 a.m. - 8:15 a.m. **Session 2168 - Innovative Lab & Design Projects**

Moderator: Nancy Ma, University of Missouri-Rolla

8:30 a.m. - 10:15 a.m. **Session 2268 - Innovative Teaching in Mechanics II**

Moderator: Phillip Cornwell, Rose-Hulman Institute of Technology

12:30 p.m. - 2:00 p.m. **Session 2468 - Mechanics Instruction Using the Computer**

Moderator: Mir Atiqullah, St. Louis University

6:30 p.m. - 9:00 p.m. **Session 2768 - Mechanics Division Annual Banquet**

Moderator: Bob Hastie, DTRA/CPOH

Wednesday, June 27, 2001

8:30 a.m. - 10:15 a.m. **Session 3268 - Innovative Teaching in Mechanics III**

Moderator: Scott Danielson, Arizona State University-East

12:30 p.m. - 2:00 p.m. **Session 3468 - Mechanics Division Lunch/Business Meeting**

Moderator: Bob Hastie, DTRA/CPOH

WHAT'S NEW IN MECH ED

Mechanics and the World Around Us

I recently applied for an American Association for the Advancement of Science Congressional Fellowship. As part of the fellowship application we were asked to describe why the experience was sought.

So I began by discussing my conviction that science and technology are often overlooked in key policy decisions. I claim that how we use and manage technology and allow, or disallow, the evolution of science controls our future. Commerce and the Internet, the bioethics of evolving gene therapy, and technology stocks all serve as examples of the tremendous impact science and technology has on daily life.

Discouragingly, I see our society blindly embrace science and technology even in the face of the unintended consequences. Yet, it troubles me when we as a society, as well as those educated in technical fields, are unfamiliar with those who have shaped our world as Jack Kilby and Robert Noyce did nearly a half a century ago with the integrated circuit. In spite of their impact on daily life, why is that they are not publicly recognizable as having made a significant contribution to modern existence?

Further, why is it *unacceptable* to be illiterate, yet *tolerable* to be math phobic? Why do underrepresented groups and women share such a small place in the excitement of science and technology, or fail to understand the connection between technological innovation and America's economic prosperity?

As scientists and engineers, I believe we share some of the blame for these problems. We do not always effectively communicate our findings and discoveries. As a community, we should understand the influence of our evolving technology on society and of society on our work, taking a holistic perspective. In many cases, technologies are oversold as the "cure all" when, in fact, non-technical influences may control the effectiveness of a solution.

I believe that the challenges cited above require an interdisciplinary perspective when forming policy. It is without the willingness or capacity to see into the constraints and knowledge of other influences that we fail to accurately address complex problems.

As engineer mechanics educators I began to think through how ABET can assist in the development of this perspective with our students. I, however, could not help but think that there is something missing or not more clearly stated from the ABET perspective to address the reality of our impact. How do we as engineers recognize our global connection to the world around us? How do we impart that sense of stewardship while still technically preparing the student for the specifics of a career (engineering or not)? Do we train our mechanics students to think outside the box and appreciate the interdisciplinary influences in all the many things we are called to address as practicing engineers and as citizens? Through our curriculums and design experiences do we provide adequate opportunity for the students to gain and exercise this perspective?

I simply leave you with these thoughts and the hope that we develop the ABET perspective in our programs that help the students understand that they are gaining more than just an engineering education. My hope is that we continue to grow and understand that there is global connection to what we do and the influence of the world around us on our work.

Jack Lesko
Mechanics Division Secretary, jlesko@vt.edu

ANNOUNCEMENT

14th U.S. National Congress of Applied Mechanics

The Engineering Science and Mechanics Department at Virginia Tech is hosting the 14th U.S. National Congress of Applied Mechanics, June 23-28, 2002 in Blacksburg, VA. There will be sessions on mechanics education as well as technical sessions. For more information please visit our website:
<http://www.esm.vt.edu/~rbatra/usncam14/> .

2000/2001 MECHANICS DIVISION OFFICERS

Chair: Robert Hastie, DTRA/CPOH
 (703) 325-1270, robert.hastie@dtra.mil

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

Program Chair & Chair Elect: Michael A. Magill, Purdue University
 (765) 494-7514, mamagill@tech.purdue.edu

Program Chair Elect: Ralph Flori, University of Missouri-Rolla
 (573) 341-4588, reflori@umrvmb.umn.edu

Secretary: John J. Lesko, Virginia Tech
 (540) 231-5259, jlesko@vt.edu

Treasurer: Gary L. Gray, Penn State University
 (814) 863-1778, gray@enr.psu.edu

Archivist: Ralph Flori, University of Missouri-Rolla
 (573) 341-4588, reflori@umrvmb.umn.edu

Board Members: Sudhir Mehta, North Dakota State University
 (701) 231-7871, mehta@badlands.nodak.edu
 Mir Atiqullah, Saint Louis University
 (314) 977-8427, atiqulla@slu.edu
 Martin Pike, Purdue University
 (317) 455-9291, martypike@juno.com
 Karim Nohra, University of South Florida
 (813) 974-5594, nohra@eng.usf.edu

January 2001 Newsletter



ASAE Mechanics Division
 John J. Lesko, Secretary
 Virginia Tech
 Engineering Science and Mechanics
 120 Patton Hall
 Blacksburg, VA 24061

Non Profit Org.
 U.S. Postage
Paid
 Blacksburg, VA
 24060
 Permit No.28