



# ASME International

Pittsburgh Section Newsletter



Volume 10, # 8

<http://www.asme.org/sections/pgh>

May 2003

## SECTION CALENDAR

Next newsletter  
September 2003

Have a safe and happy summer.

## Joint Meeting with American Nuclear Society (ANS)

**Program:** ASME Awards Banquet  
Presentation – *“The Engineers Response to Homeland Security”*

**Speaker:** Kenneth Balkey  
Chair, ASME Critical Assets Protection Initiative Risk  
Analysis Team  
Fellow Engineer, Westinghouse Electric Company

**Date:** Thursday, May 22, 2003  
**Times** 6:00 PM Social  
7:00 PM Dinner (optional)  
8:00 PM Program

**Location:** Dave & Busters,  
180 East Waterfront Drive, Homestead, (412) 462-1500  
<http://www.daveandbusters.com/>  
(links to maps are provided at  
<http://www.asme.org/sections/pgh>)

**Parking:** Free – in lot

**Dinner:** Buffet Dinner

**Cost:** Members and Guests – \$20  
Students and Unemployed members - \$15.  
There is no charge for the program alone, but please call to  
reserve a space.

**Contact:** For registration or more information, contact  
Mike Sylvester, (412) 573-0077, [mike@alltekstaffing.com](mailto:mike@alltekstaffing.com) or  
Jeff Bradfute, (412)-374-2080, [bradfujl@westinghouse.com](mailto:bradfujl@westinghouse.com)

**RSVP:** by Friday, May 16, 2003

### Program Description:

Come and join us for a special Homeland Security presentation and to honor our 2002-2003 Engineer-of-the-Year and Industry-of-the-Year. This is always a special opportunity to honor those who have served the Mechanical Engineering community of Pittsburgh with distinction.

Homeland Security is an issue facing us all today. The challenge of how to meet these needs today and in the future is significant. The featured presentation will review steps being taken by the public and private sectors to address these challenges, including the response of engineers.

We will also honor our student winners from Future Cities and the Regional Student Science Fair. Games will be available - or just enjoy the atmosphere. Bring the entire family - everyone is welcome! There is fun for everyone at Pittsburgh's Waterfront.

### SHOW YOUR SUPPORT FOR ASME

If you sponsor ASME Pittsburgh, we will feature your company's products and services in our newsletter. For \$300 you can capture the attention of 1500+ fellow members and inform them of your company on a full page of one issue. For \$180 your company will be featured in 1/2 page; for \$95, 1/4 page; for \$70, 1/8 page; and for \$50 a business card space.

### Seminars:

Professional Development  
Albert R. Bouvy  
E-mail: [arbouvy@aol.com](mailto:arbouvy@aol.com)

### Newsletter:

Editor  
Brian J. Schleger  
E-mail: [bschleger@rahiller.com](mailto:bschleger@rahiller.com)

Please Post

## Engineering Day

Students at the University of Pittsburgh School of Engineering participated in Engineering Day (E-Day) at Henry Clay Frick School as part of their annual E-Week. Junior Joe Berger, representing the Panther Racing Team, and Seniors, Nick Krizan, Jessica Kubilus, and Drew Werner, representing the student chapter of ASME, gave 6 groups of 15 eighth graders a presentation on what mechanical engineers do. They informed the students that everything and anything that they can think of involved some part of mechanical engineering, from everyday things like lollipops to the Panther Racing Formula Style Race car. Students were also informed of a few of the main branches of mechanical engineering and what they can do with a degree in mechanical engineering. Students were then encouraged to ask questions about both mechanical engineering and the Panther Racing car. Some of the common questions included: "How fast does the car go?" and "What types of jobs the seniors would be doing with their degree?" At the end of the presentation the 8th graders were encouraged to give the Engineering students an example of mechanical engineering in exchange for a lollipop.

By Jessica Kubilus



Jessica Kubilus, Nick Krizan, Drew Werner, Joe Berger

## 2003-2004 Minority Leadership Internship Program

Applications for participation in the 2003-04 program must be submitted by no later than July 15, 2003. For information on the program, as well as the application, go to <http://www.asme.org/bmw/minorityleadership.html>

## Resume Board Alert!

Mechanical Engineering positions are available. Please submit your resume to:

Resume Board, ASME Pittsburgh Newsletter,  
5353 Hardt Road, Gibsonia, PA 15044-9113

Job postings are also updated frequently on our website at: <http://www.asme.org/sections/pgh>

## CMA/COE CONFERENCE COORDINATOR INFORMATION AVAILABLE ONLINE

The Committee on Member Affairs/Committee on Engineers Conference coordinator listing with contact information is now available online in the CMA directory.

There are 13 Regional Conference coordinators, whose responsibilities include the following:

- Compiling Regional demographics, including identifying Sections with the resources available to host conferences as well as information about the membership within the Region
- Maintaining coordination and communication with the Sections in the Region, and acting as a contact for the COE Groups and Divisions
- Responsible for overseeing conference planning on the Region/Section side to ensure conferences are being planned and developed with the Section and have successful outcomes

These coordinators are available to help Regions and Sections develop ideas for conferences and to offer guidance in executing them for a successful outcome.

To access the coordinators listing, log onto the "Members Only" site at [www.asme.org](http://www.asme.org).

Select "CMA Directory" from the links provided at the right-hand side of the screen. The CMA/COE Council Coordinators listing is located in the "Council on Member Affairs" portion of the directory.

For more information, please contact Webb Marner, Lead Conference coordinator at [wmarn@jpl.nasa.gov](mailto:wmarn@jpl.nasa.gov).

## 2003 Board on Minorities and Women Award

Nominations for the 2003 BMW Award recipient must be submitted by July 31, 2003.

For information on the award, as well as the application form, go to <http://www.asme.org/bmw/award.html>.

# Your Email Address The Key to ASME International

Did you know that your email address is the key to what's happening at ASME? By providing us with your current email address, you can learn about events taking place in your local section, such as professional development courses, industry tours, section meetings, lectures, networking opportunities and technical conferences.

Updating your email address online only takes a few minutes. To access your membership information, go to [www.asme.org](http://www.asme.org). Click on the "Members Only" tab to log onto this site. Be sure to have your member number on hand. After logging on to Members Only, select the "Change of Address and Information" link, located on the upper right-hand side of your screen. From this screen, you will be able to update your primary contact information.

So don't miss out on all that ASME has to offer! If you have any questions about your membership information, contact InfoCentral at [infocentral@asme.org](mailto:infocentral@asme.org).

## We Can Help You Make Your Classroom Visit a Success!

Make your visit to a classroom easy and download free lesson plans on line or order copies of the ASME-produced videos aimed at K-12 students. The videos are accompanied by lesson plans, posters, handouts and other presentation materials. Available videos include "Engineering is for Everyone," for elementary schools, "Mothers of Invention " for middle schools, and "Career Encounters: Mechanical Engineering" for high schools. FREE brochures are also available: What is Mechanical Engineering?, Mechanical Engineering and Mechanical Engineering Technology: Which Path Will You Take?, and Mechanical Engineering A-Z. Order your videos and FREE brochures today! [www.asme.org/education/precollege/materials](http://www.asme.org/education/precollege/materials)

## RESEARCHERS FROM THE MUSCULOSKELETAL RESEARCH CENTER RECEIVE *ACHILLES AWARD*

The Acromioclavicular Joint Team of the Shoulder Group at the Musculoskeletal Research Center has recently been awarded the *Achilles Orthopaedic Sports Medicine Research Award* for their

manuscript entitled "Biomechanical Evaluation of Three Common Reconstruction Procedures for Complete Dislocations of the Acromioclavicular (AC) Joint". Authors include Rajesh Jari, MD, Ryan S. Costic, BS, Mark W. Rodosky, MD, and the project's Principal Investigator, Richard E. Debski, PhD. Dr. Debski is a faculty member of the Musculoskeletal Research Center (MSRC), Department of Orthopaedic Surgery, where this work was performed. The MSRC is directed by Dr. Savio L-Y. Woo, the A.B. Ferguson Professor of the Department of Orthopaedic Surgery.

The Achilles Award was presented at the 2003 ISAKOS 4<sup>th</sup> Biennial Congress in Auckland, New Zealand on March 13<sup>th</sup>. Dr. Jari and his co-authors received a \$3,000 Honorarium as well as an award certificate during the Award Presentation.

Currently, most surgical procedures for the treatment of AC joint dislocation involve the replacement of the coracoclavicular (CC) ligaments to minimize motion. These techniques allow scarring to occur, subsequently increasing the stability of the joint. Therefore, the objective of this study was to evaluate the biomechanical function of three common surgical procedures for AC joint dislocations: the CC sling, Rockwood Screw, and CA Ligament Transfer Complex. These findings may lead to the design and development of new repairs and rehabilitation procedures for AC joint dislocation.

### JUDITH A. FRIEDEL, MBA, MSCE, BSME, PE CERTIFIED FINANCIAL PLANNER™ "ASME MEMBER FOR OVER 30 YEARS"

#### Financial Services for Business and Individuals

Call now for a no cost, no obligation consultation  
**Phone: 412-331-0566 or 412-367-3880**

- 529 Plans (Tax-Free Gains for College)
- IRAs (Roth and Traditional)
- 401(k)s, 403(b)s
- Mutual Funds
- Stocks
- Bonds
- Mortgages
- Estate Planning
- Annuities (Fixed, Variable, Indexed)
- Life Insurance
- Health Insurance
- Disability Insurance
- Long Term Care Insurance
- Lump Sum Distributions

ALLEGHENY INVESTMENTS, LTD.  
3000 McKnight East Drive  
Pittsburgh, PA 15237



Phone 1.800.48.ALGOR  
Fax 1.412.967.2781

tire@algor.com  
tire.ALGOR.com

## FEA Software Chosen to Verify Wheel Design for Goodyear "Run-Flat" Tires

### The Effect of Low Inflation Pressure on Tire Wheel

The Goodyear Tire & Rubber Company developed a run-flat tire called an extended mobility technology (EMT) tire that can be safely driven without air for at least 80 km (50 miles). Before these new tires could be used, Goodyear needed to verify that existing wheel designs would support this new technology. Goodyear EMT tires are now original equipment on the Chevrolet Corvette, Daimler Chrysler ProWer and the Mini from BMW Group.

### The Challenge

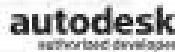
Goodyear needed to make certain that the wheel design could handle the low pressure caused by an under-inflated tire. The final design needed to maintain the safety benefit of controlled handling and braking.

### The Solution

While a Ph.D. candidate at the University of Akron, John Stearns performed a parametric study of inflation pressure and stresses in a standard wheel. A typical aluminum wheel was modeled in Pro/ENGINEER and the geometry was captured with ALGOR. Constraints were applied to represent the wheel's attachment to a vehicle and a combination of pressure loads were applied to simulate vehicle weight and inflation pressures of 0, 17 and 26 psi. Higher stresses were found at lower inflation pressures, but the magnitude of the stresses was low enough that a standard wheel could be recommended for EMT tires. Over one million run-flat EMT tires are now being used on the road.

### Solutions for More Efficient Design

Engineers around the world choose ALGOR because of its CAD support, flexible finite element modeling capabilities and wide range of FEA-based simulation capabilities. Simulation capabilities include Mechanical Event Simulation for FEA-based motion and stress analysis, full multiphysics and stress, linear dynamic, heat transfer, fluid flow, electrostatic and piping. These capabilities enable engineers in industries such as automotive, aerospace, medical, consumer products, military, electric power, petroleum, manufacturing, micro-electro-mechanical systems (MEMS) and more to accelerate time to market and make better, safer products at a lower cost.



All trademarks are the trademarks or registered trademarks of their respective owners.

1.800.48.ALGOR

tire.ALGOR.com



"I chose ALGOR for this project because Pro/ENGINEER software offers better control over CAD geometry and flexible modeling capabilities."  
John Stearns, Ph.D.



The wheel geometry was modeled in Pro/ENGINEER and captured using r2DAD technology.



A load of 2000 pounds (at 200 psi) at 0 degrees was applied to simulate the vehicle weight.



Maximum principal stress results revealed that the wheel experienced greater stress at lower inflation pressures.



Laboratory test results correlated well with ALGOR's FEA results.

NON-PROFIT ORG  
U.S. POSTAGE  
PAID  
Pittsburgh, PA  
PERMIT NO. 3709

ASME, Pittsburgh Newsletter  
PO Box 507  
Pittsburgh, PA 15202

## Resume Board

Resume Board, ASME Pittsburgh Newsletter,  
5353 Hard Road, Gibsonia, PA, 15044-9113

Email: spohnw@asme.org

Employers: Write, phone, fax or email to the above address (ph: 724-443-7700, fax: 724-443-7701), and include your fax number and we will fax the selected resume to your attention within 48 hours.

2002-2003 Pittsburgh Section – Executive Committee – Chair Jim DiPerna, DiPerna and Associates, 412-731-2927 • Vice-Chair Jeffrey Vipperman, University of Pittsburgh, 412-624-1643 • Secretary Douglas Koebler, Automated Cell, Inc., dkoebler@westol.com • Treasurer William P. Spohn, Testo, Inc, 724-443-7700, spohnw@asme.org • Board on Minorities and Women Lori Rankin, lrankin@switch.com • College Relations Jeffrey Vipperman • Government Relations Frank Faron, Raifar Assoc., 412-373-3191 • History & Heritage William P. Spohn • Honors and Awards Mike Sylvester, AllTek Staffing and Resource Group, Inc, 412-573-0077 • Industry Relations Donald Risko, Extrude Hone Corp, 724-863-5900 • Member Interests Thomas (Rip) Curran, Monroeville Water Auth, 412-372-2677 • Membership Development Nate Roberts, PA Transformer Tech., Inc., 724 873 2550 • Newsletter Editor Brian Schleger, Ralph A. Hiller Co., 724-325-1200, bschleger@rahiller.com • Professional Development Albert R. Bouvy, arbouvy@aol.com • Professional Practice and Ethics Allen Selz, Pressure Sciences Inc., aselz@press-sci.com • Programs, Student Programs K-12 Darrell Rapp, Concurrent Tech. Corp., 412-577-2658 • Public Information & Publicity Lori Rankin • Satellite Programs Donald Risko • Technical Activities Allen Selz • Employment Opportunity Chair, Thomas (Rip) Curran • Webmaster Richard Horne, Medrad Inc., rhorne@medrad.com - Directors - Albert R. Bouvy, Darrell Rapp, Donald Risko, Douglas Koebler, Frank Faron, Jeffrey Vipperman, John Wesner, Marilyn Reeder, Nelson Tonet, Richard Conley, Thomas (Rip) Curran, William P. Spohn - Regional Vice President Mahesh Aggarwal Ph.D., Midwest Regional Director Thomas Wendt - © 2003, The American Society of Mechanical Engineers, Pittsburgh Section. All rights reserved. The ASME Pittsburgh Newsletter is published monthly throughout the year, except June, July, August and December. • Please Direct All Address Changes To: ASME Member Services, Three Park Avenue, New York, NY 10016, phone (800) 843-2763.