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# TREASURE VALLEY SECTION ASME NEWSLETTER



The American Society of  
Mechanical Engineers

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## November 13th: Impromptu Design Contest

ASME impromptu design contests are a great way to meet your fellow mechanical engineers, work together, and have fun. The idea is to design and build a device to accomplish a specific task with limited materials in a limited amount of time. Does this sound like your current job? Well, we all work within constraints, but for an evening the task will be specified, your boss is at home, and you will have fun.

Since this will be an impromptu contest, you won't know the rules until the contest starts. At the recent ASME Team Leadership Conference in Portland OR, Section Chair Carl Hamke and I joined with about 100 other professionals and students to build remote controlled toilet paper unrolling devices. Using a collection of parts, including a mousetrap, pencils, rubber bands, a plastic toy bicycle, and ½ hour design and construction time, Carl's winning group unrolled over 10 feet!

Bring your imagination, organizational skills and engineering knowledge, we'll furnish the rest. For those interested, we will move over to the Ram for refreshments and contest de-briefing. See you there.

- Date:** November 13, 2001
- Time:** 6:00-8:00 p.m.
- Location:** 2<sup>nd</sup> floor lobby, BSU Engineering Technology Building, 1375 University Dr., Boise, ID 83725
- Parking:** Street parking available on University, Manitou, Euclid and Belmont streets
- Contact:** Alan Russell: 396-4439

## New Web Page for Treasure Valley Section ASME

We have gone through a few changes and changed our address of our web page. To find out more about our section, see all future events, and review previous activities and newsletters, please visit our site at: <http://www.asme.org/sections/tvidaho/index.htm>.

## ASME Virtual Campus: Graduate Courses Online

Want to develop your skills and talents and move up the career ladder? Then choose ASME International's **ASME Virtual Campus: Graduate Courses Online** option. Enroll in the virtual campus and choose from a wide range of Graduate Certificate and Masters Degree programs, as well as credit and non-credit courses.

For a complete listing of courses, visit us on the Web at [www.asme.org/asmevirtualcampus/](http://www.asme.org/asmevirtualcampus/) or call Thomas Kuehl at 212-591-8013 ([kuehl@asme.org](mailto:kuehl@asme.org)) or Kathy J. Warner at 212-591-7411 ([warnerk@asme.org](mailto:warnerk@asme.org)).

**ASME members receive a 10% discount; Non-members receive a 5% discount.**



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## Oct 9<sup>th</sup> Recap – Presentation on the James Bond Fuel – Shaken, not Stirred

Bizarre as it may seem, a group of researchers at the University of Idaho have teamed with Automotive Resources of Sandpoint to develop a catalytic igniter that permits the combustion of ethanol and water in internal combustion engines. While a typical mixture is 70% ethanol and 30% water, blends as high as 50:50 have been used. Water lowers combustion temperature, and colder combustion lowers the production of nitrogen oxides (NO<sub>x</sub>). Water also promotes the oxidation of carbon monoxide. The platinum catalyst makes combustion of this wet fuel possible by enabling chemical bonds in the fuel to break under conditions where combustion could not ordinarily occur - thus releasing energy and fuel fragments that ultimately lead to rapid torch ignition of unburned fuel in the cylinder.



The team converted a 15-passenger van to run on this renewable fuel blend. They are also investigating the fundamental chemical kinetics of the catalyzed ignition, developing models to predict ignition timing, and examining igniter durability and engine wear.

Sponsors of the project include the National Institute of Transportation Technology, U.S. Army, NASA, Idaho Space Grant Consortium, NIST TechHelp, Idaho Energy Division, and Idaho Transportation Department. Micron Technology has donated equipment, and Simplot has provided fuel manufactured from potato waste at its ethanol plant in Caldwell.

Judging by the many questions received, this joint meeting with the Idaho Society of Professional Engineers captured the interest of our members. We were especially pleased to see youngsters - tomorrow's engineers, perhaps - in attendance.

## BSU Graduate-Level Mechanical Engineering Courses Spring 2002

**ME 532: Acoustics (3 credits)** MWF 11:40-12:30 Instructor Joe Guarino, Professor of Mechanical Engineering

**ME 533: Dynamic Meteorology (3 credits)** MW 6:00-8:00 PM Instructor: Paul Dawson, Professor of Mechanical Engineering

**ME 554: Composites (3 credits)** TuTh 5:40-6:55 PM Instructor: Anthony Paris, Visiting Asst. Professor of Mechanical Engineering

**ME 597/1: Design and Analysis of Mechatronic Systems (3 credits)** MW 4:40-5:55 Instructor: John Gardner, Professor of Mechanical Engineering

**ME 597/2: Conductive Heat Transfer (3 credits)** Tu 2:40-5:30 PM Instructor: Lynn Russell, Professor of Mechanical Engineering, Dean of Engineering

**ENGR 597/1: Electronic, Optical & Magnetic Properties of Materials (3 credits)** TuTh 5:40-6:55 PM Instructor: William Knowlton, Asst. Professor of Electrical Engineering

**ENGR 597/2: Solid State Thermodynamics & Kinetics (3 credits)** TuTh 3:15-4:30 PM W 12:40-1:30 Instructor: Harold Ackler, Asst. Professor of Electrical Engineering

## **Computer-Integrated Design & Manufacturing Conference (CIDM) and Exhibition - Experienced Panelists Needed**

Boise State along with Idaho's TechHelp and the US/EDA are planning a day-long conference and Exhibition on Computer Integrated Design and Manufacturing (CIDM) for April 9, this coming spring.

Initial plans include:

1. A panel session of companies that have recently used solid modeling (SM) and or rapid prototyping (RP).
2. A national expert discussing appropriate applications of SM and RP.
3. Workshop(s) to discuss (rapid) product development.
4. Exhibits of CIDM Software and hardware vendors such as:  
SolidWorks, SolidEdge, ProE, 3D Systems,  
Stratasys, Z-Corporation
5. TechHelp booth
6. RP service bureaus booths
7. Business Projects exhibits / Student-based Project Exhibits
8. Test-Drives of Solid Modeling software/ 3D glasses
9. Rapid Prototyping demonstrations

But, as you may already know, Idaho and the Northwest has a lot of talent! Specifically, there are some engineers and designers already making effective use of the many tools and methods of CIDM. Therefore, a special session is being planned to include a panel discussion of "veterans" .... that is a number of experienced engineers and or designers from businesses or academia around the region. Each panelist will make about a 10 minute presentation of a specific software package, or piece of hardware, or product design method that they have found useful. Then the session will be opened for questions.

Please contact Rudy Eggert if you, or someone else you know, would be interested in joining the panel. Contact him by email or phone at the address below by October 31. Dr. Rudy J. Eggert, P.E., Mechanical Engineering Dept., Boise State University (ET240), Boise, ID 83725, 208/426-4810, [reggert@boisestate.edu](mailto:reggert@boisestate.edu)

And be sure to mark your calendar now for the CIDM Conference and Exhibition on April 9th, 2002!

## **Treasure Valley Section ASME 2000-2001 Remaining Tours**

The following lists the remaining 2001-2002 lineup of tours and events for our Treasure Valley Section of ASME. Similar to last year, we will continue to have the meeting nights on the 2<sup>nd</sup> Tuesday of every month. We welcome members and non-members to attend. This list will be updated frequently, so please watch our web site at <http://www.asme.org/sections/tvidaho> as details are confirmed and filled in for later events.

Date	Time	Event	Location	Contact
11/13	6PM	Impromptu Design Contest	Boise State Univ.	Alan Russell
12/11	6PM	National Weather Service Site (15 person limit, e-mail reservation now)	NWS office - Boise Airport	Paul Dawson/Alan Russell (alan_russell@hp.com)
1/8	6PM	ASME Distinguished Lecturer (Video Conference)	U. of Idaho, Boise Campus	Carl Hamke
2/12	6PM	Ski Night/Tour of Snowmaking/Lifts at Bogus Basin	Bogus Basin Ski Resort, Boise ID	Alan Russell/Rudy Eggert
3/12	6PM	Professional Development Short Course	U. of Idaho, Boise Campus	Larry Stauffer
4/9	6PM	U of I Combustion Research - French-Fry Oil Fuel Van	U. of Idaho, Boise Campus	Judi Steciak
5/14	6PM	BarDenay/Harrison Hollow Tour	BarDenay, Boise, ID	Alan Russell

## ASME National News

### **2001 ASME INTERNATIONAL MECHANICAL ENGINEERING - CONGRESS & EXPOSITION**

Nov. 11-16, 2001  
New York City

#### Focus on Nanotechnology

Explore the design, synthesis, manipulation and control of micro- and nano-scale systems with an array of technical sessions and special presentations, including:

Nano-Structures and Nano-Scale Devices  
Miniature Energy Systems  
Nano-and Micro-scale Modeling and Technology for Electronic Packaging  
Nano-and Micro-Mechanics  
Microelectromechanical System Micro-Fluidics  
Advances in Applied Mechanics for New Technology

For More Information, log onto:

<http://www.asme.org/congress>

### ***National Engineers Week 2002***

ASME members wishing to concentrate specifically on mechanical engineering during E-Week should consider contacting Information Central at (800) 843-2763 to obtain copies of various 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.

E-Week 2002 planning kits will be available from Information Central in November.

### ***Young Engineers Award***

ASME International wants to give \$5,000 plus a prepaid life membership to a young ASME member that has done an outstanding job in their profession, community and the work of ASME. **Nominate a Young Engineer** for the Old Guard Young Engineers Award Today!

<http://www.asme.org/cma/og/youngengineer.html>.