



November and December Events

Nov 4-25 – ME Dept. Phonathon

Nov 4-Dec 18 – ASME tutoring / mentoring program for K-12 Rolla Public Schools

Nov 5 – General Meeting

Nov 13 – Parent Section Meeting

Nov 19 – Guest Speaker Evelyn Baker

Dec 3 – Guest Speaker Dr. Hank Pernicka

November 5 – ASME General Meeting (ME 104, 5:30 pm)

The UMR Student Section of ASME wants your input! The purpose of ASME student sections is to promote the professional development of future engineers, but to do this, we need to know what areas we can fill in. Do you want to see some of the facilities mechanical engineers work in? Would you like to discuss career paths with a “real” engineer? Do you want an opportunity to gain leadership experience and have something to put on your résumé? These are just a few of the opportunities ASME can provide. Don’t just wait around to see what turns up, make ASME work for you!

November 13 – Parent Section Meeting

Greg Maryniak, Executive Director of the X Prize Foundation will give a presentation on the X Prize. The X Prize is a \$10 million cash prize to promote the private development of a reusable spacecraft. To win the prize, a team must be the first to privately finance, build, and launch a spaceship able to carry three people 62.5 miles into space. The spaceship must return safely to Earth, and then repeat the trip within two weeks. Currently, 24 teams from 7 different countries are competing for the X Prize, and some are even in the flight-testing stage. The presentation will include the most recent competition status, technical challenges and innovative team approaches, and photos and videos including actual flight-testing footage.

This meeting will be held at Boeing, and the James S. McDonnell Prolog Room will be open

for viewing. This room has some great displays, including a full-scale Harpoon radar-guided missile and full-scale Mercury and Gemini space capsules. It also has a detailed time-line of the history of flight. Reservations are required by Friday, November 7. Don’t miss out on this exciting event! Contact Alan Pilch (acpgcb@umr.edu) to sign up.



Scaled Composites White Knight launch aircraft carrying SpaceShipOne followed by a Beech Starship chase aircraft

November 19 – Guest Speaker Evelyn Baker (ME 104, 5:30 pm)

You just graduated from UMR and landed your dream job. This might be a great time to quit paying rent and start the process of getting a real asset – a house! Where do you start? What do you need to know before taking out a loan? Evelyn Baker from Coldwell Banker Real Estate can answer these questions and more.

December 3 – Guest Speakers (ME 104, 5:30 pm)

Dr. Hank Pernicka and some of his students will be giving a presentation on the MR SAT Project. MR SAT stands for Missouri – Rolla Satellite, which is a satellite design project conducted in cooperation with NASA Goddard Space Flight Center. The purpose of this project is to compare the dynamics of “free flying” spacecraft formations to formations that are tethered to each other. To facilitate this comparison, a pair of spacecraft will be designed and launched into orbit. Students and faculty will be responsible for the design, construction, and testing of the spacecraft.

News and Programs

Help Raise Funds for ASME, the ME Department, and UMR!

We are looking for current and prospective students in the Department of Mechanical Engineering to help raise funds for the ME Annex Reconstruction in the annual Mechanical Engineering Phonathon. Phonathon activities are Sunday through Thursday evenings, from November 3 - 25, between 6:00 - 9:00 pm. With our strong participation, the Phonathon and the ME Department will provide a considerable donation to the ASME Student Section, which will be used to help provide guest speakers, transportation to plant trips and conferences, more FREE pizzas, and in general provide a better ASME program for YOU!

The Phonathon process is an excellent opportunity to network with fellow Mechanical Engineers. Co-op and permanent job offers have been acquired through contacts made during the Phonathon process. Individuals that would prefer to not receive a call are removed from the calling list, and we have alumni that will call or e-mail that they were missed during the Phonathon scheduled for their department. Our alumni are truly remarkable and they enjoy hearing from you.

Did you know that last year, there were 322 students in the Department of Civil Engineering, and that they raised \$122,000? And that the 472 students of Electrical Engineering raised \$99,465? With 502 students, the Department of Mechanical Engineering raised only \$83,840. Let's do the math:

$$\begin{array}{r} \text{Civil Engineering:} \\ \$122,000 \\ \hline 322 \text{ students} \end{array} = \$379 \text{ per student}$$

$$\begin{array}{r} \text{Electrical Engineering:} \\ \$99,465 \\ \hline 472 \text{ students} \end{array} = \$211 \text{ per student}$$

$$\begin{array}{r} \text{Mechanical Engineering:} \\ \$83,840 \\ \hline 502 \text{ students} \end{array} = \$167 \text{ per student}$$

Are you going to let the reputation of the largest department on campus be trodden on by a bunch of mere Civil and Electrical Engineers? **I didn't think so!** We are Mechanical Engineers, the best of the best at EVERYTHING!

In order to encourage participation, the ASME is offering the following incentive package; based on how much time you can give to the Phonathon:

9 hours (3 evenings)	Free UMR School of Engineering T-Shirt, designed by ASME
18 hours (6 evenings)	Free UMR School of Engineering T-Shirt Free UMR School of Engineering Polo Shirt
Pizza and soda will be provided free of charge every evening to the ASME volunteers!	

Consider this: if you work one night a week for the duration of the Phonathon, you will have put in enough time to earn a free t-shirt! If there is a large enough turnout, we are considering providing a large **CASH SCHOLARSHIP** to the person who raises the most money for the University on ASME's behalf.

Please contact Leah Rechner (lsry83@umr.edu), Fundraising Chair, or Misty Mills (mdm5yb@umr.edu), Student Section Vice-Chair, to volunteer!

ASME Looking for Mentors and Tutors

ASME is looking for volunteers to serve as mentors and tutors to Rolla Public School students. There are many opportunities to work with students at the Elementary, Middle, and High Schools. Do you remember having problems with Math, Science, English, or Social Studies when you were at that age? Many of these students simply have trouble concentrating and getting their work done, and could use a good mentor like you. This is a great opportunity to give something of yourself to the community, help some kids gain confidence and succeed in their classes, and be a positive role model to local students. Some of these students may be future engineers, and this is a good opportunity to reach out introduce them to the profession.

The Rolla Middle School has times set up for tutoring sessions with students in 5th, 6th, and

7th grade. These sessions are one hour long, on Tuesday, Wednesday, and Thursday afternoons from 3:15 - 4:15 pm. You may volunteer as little as once a month, once a week, or as much as three times a week. If these times do not fit your schedule or you would prefer to work with students from the Elementary or High School, we can arrange that as well. Please contact Craig Day, Planning and Scheduling Committee Chair (kcd79c@mizzou.edu), to volunteer now!

Design the 2003-2004 ASME T-Shirt

The ASME is holding a design competition for the 2003-2004 ASME t-shirt. We are looking for a full-size design for the front of the shirt. The design must incorporate the words "UMR" or "University of Missouri - Rolla", and must incorporate "School of Engineering." It is desirable, but not necessary, to incorporate text or graphical elements representing one or more departments of the School of Engineering. The departments in the School of Engineering are:

- Basic Engineering
- Chemical and Biological Engineering
- Civil, Architectural, and Environmental Engineering
- Electrical and Computer Engineering
- Engineering Management
- Mechanical and Aerospace Engineering and Engineering Mechanics
- Manufacturing Engineering
- Systems Engineering

The winning designer will receive a free t-shirt, and their name will appear on the shirt.

Shirts will be sold to raise funds to provide the best ASME program for YOU! Designs must be submitted by November 19. The winning design will be selected by popular vote via the web by November 25.

Contact Leah Rechner (lsry83@umr.edu) in person or by email with your design ideas.

Student Design Competition

Now is the time to flex some serious engineering muscle! Every year, students from ASME sections across the country compete in the Student Design Competition. This year's contest is called Mine Madness. The goal is to

design and build a vehicle that will retrieve six simulated mines from the minefield and place them in a specified area. The minefield has three obstacles to negotiate, and the mines themselves vary in size and weight. Does this sound difficult? Intriguing? Like something UMR students can excel at? If you answered "yes" to all three, you are absolutely correct!



Design Competition Field

The design process is already under way, but there is still plenty of time to get in on the action. If we get enough people involved, we can even split into two or three teams (they give first, second and third prizes, why not try for all three?).

The competition in our region will be held on March 11-13 at University of Nebraska, so don't wait too long! First prize is \$200, second is \$100, and third is \$50. The winning team from each region also qualifies to compete in the finals held at the 2004 International Mechanical Engineering Congress and Exposition in Anaheim, CA, and receives up to \$1000 for travel expenses. There, the teams compete for a \$3000 first prize, \$1000 second prize, and \$500 third prize.

If this sounds like something you want to get involved with, contact Chester Grohs (cjgxt9@umr.edu).

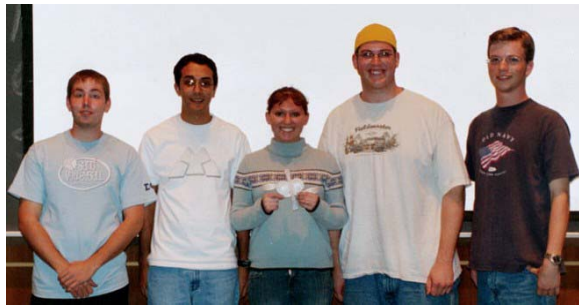
Detailed contest information can be found at www.asme.org/students/Competitions/designcontest/index.html

Past Events

Impromptu Design

If you didn't make it to the meeting October 8, you missed out on a lot of fun. We held one of our famous (infamous?) Impromptu Design Competitions. Participants were put into groups

of three to five and given two plastic forks, four straws, two small plastic cups, rubber bands, paper clips, and a length of tape. Using only these materials, each group designed and built a floatation device with the goal of floating the most pennies. The boat had to stay afloat for 30 seconds after the last penny was added, and the best of three runs was scored. The winning team floated 76 pennies, with the other teams not far behind. The last place team had a great design also, but they were having so much fun sinking their boat that they forgot to let it stay afloat for a scored run. After all, what good is water if nothing gets wet, right? Congratulations to Craig Day, Prem Midha, BJ Myler, Rachel Nestor, and Paul Steimel on their winning design.



From left: Craig Day, Prem Midha, Rachel Nestor, BJ Myler, and Paul Steimel

AMAE Luncheon

On October 10, ASME and AIAA hosted the Academy of Mechanical and Aerospace Engineers luncheon. The hard-working student volunteers from the Mechanical and Aerospace Engineering Department made this event a resounding success. These volunteers showed up at 8:00 am to set up tents; load, unload, and set up tables and chairs; put food and drinks on ice; and set up the grill and get the fire going at the right time. At 11:00 they started cooking, and stayed there (some forgoing their own lunch) until every Academy member, guest, student, faculty, and staff member got something to eat. Then, they handled the breakdown and cleanup, returned all of the tents, tables, and chairs, and in true ASME fashion, made sure that the site was cleaner than when they arrived. In recognition of their hard work and dedication to making this event a success, all of the volunteers from ASME will be treated to a free dessert at Slice of Pie. Many thanks to Bryce Barton, Angela Berring, Ardessia Caldwell,

Craig Day, Aaron Gage, Chester Grohs, Nicole McBride, Misty Mills, Pradeep Nambiath, Keith Norton, Alan Pilch, Bryan Sartin, Joy Stein, Ryan Stott, Henry Suter, James Tinsley, and Nishant Unnikrishnan for jumping in, taking charge, and getting dirty so everyone could enjoy a beautiful day, good food, and good company for the afternoon. It is people like you that ensure ASME will be successful in anything it does.

St. Louis Section tour – SIUE

On October 15, six of our members attended a tour of the National Corn-to-Ethanol Research Facility located on the campus of SIUE. The evening started with an overview of the processes used to make fuel-grade ethanol, some of the current research areas, and opportunities for future research. One of the major breakthroughs in recent years was the discovery of yeasts that can ferment complex sugars, which means more ethanol output from the same input materials. After learning a little about the process, members were given a tour of the new facility. They saw the fermentation tanks, distillation columns, transport systems, and laboratory facilities equipped with everything from basic test tubes to a gas chromatograph. This facility is an excellent demonstration of how mechanical, electrical, and biological systems can combine to produce a product more efficiently than any one system alone.



Fermentation tanks and separation equipment

Student/Faculty Forum

On October 22, ASME sponsored the Student/Faculty Forum. All Mechanical and Aerospace students and faculty were invited to attend this forum for the exchange of ideas about the present and future of the department. Dr. Ashok Midha, department chair, started off the

evening with a presentation about the recent successes of our student design teams and the future of the ME building and ME Annex. A question and answer session with the attending faculty followed. Some of the things that were discussed were the research areas in the department, details of the new ME building, and ways to improve open-ended design projects to allow students sufficient time to do them well. Thank you to the faculty members Darryl Alofs, Walter Eversman, K. Krishnamurthy, Robert Landers, Frank Liou, Dan McAdams, Ashok Midha, Brad Miller, Harlan Nelson, and J. Keith Nisbett for contributing to the discussion.

**Message from the Student Section Chair,
Alan Pilch**

With most of the Fall Semester behind us, the officers have been hard at work planning the program for the Spring Term. At the November 5 meeting, we will present the calendar for spring, and open the floor for comments. The ASME is YOUR professional society. As the elected officers, we will do our best to fulfill YOUR needs. Your feedback on the calendar is essential in order for us to provide you the best program possible.

I would like to thank all those who have lent a helping hand this semester for their hard work. The committee chairs and committee members are doing a great job! The Academy Cookout could not have been successful without the help of those volunteers. I am very encouraged by the level of activity this year in the Student Section, and expect that level to continue rising.

The activity of our Student Section is intended to encourage professionalism, technical competence, and leadership, and also to have some fun. Those students who participated in the Impromptu Design Competition sure had a blast! And the winning team members each walked away with a brand new stapler, a critical item for every engineering student's backpack. Students learned about ethanol generation processes at the SIUE Corn-to-Ethanol Facility Tour. Students have organized to form at least one team for the annual Student Design Competition, and they are proceeding nicely!

ASME is an International Society, beyond the walls of ME104, and more than just the Parent Section in Saint Louis. See some of the program offered internationally by the Society towards the end of this newsletter. The finals for last year's Student Design Competition are on November 16, in Washington, DC. How would you like to be there next year? Start going places! Get involved with ASME!

Committee Information

If you are looking for a way to spice up your resume then become an ASME member and add that to your activities. Well, what happens when they like your resume, call you interview, and start asking you questions about what activities did you do in ASME? Today's employers are looking for leadership and organizational skills. Being active in an ASME Committee gives you the opportunity to help organize an event, lead and motivate people to become better engineers, and give selfless volunteer hours to those who need it. How would that look to an employer? EXCELLENT! If you have a busy schedule and have a limited amount of time you can work on activities that don't take a lot of time. What ever involvement you have gives you experience and helps you grow as a professional. If you would like to take advantage of these opportunities please contact me at mdm5yb@umr.edu.

Sincerely,
Misty Mills
ASME Student Section Vice-Chair

2003-2004 UMR Student Section Officers

<u>Chair</u> Alan Pilch acpgcb@umr.edu	<u>Vice – Chair</u> Misty Mills mdm5yb@umr.edu
<u>Secretary</u> Tessa Russell tcr976@umr.edu	<u>Treasurer</u> Matt Chandler mfcbp7@umr.edu
<u>Newsletter Editor</u> Angela Berring acbn7d@umr.edu	<u>Advisor</u> Dr. Brad Miller millerba@umr.edu

2003 ASME International Mechanical Engineering Congress and
Research Development and Design Conference



Don't forget to register for the 2003 ASME International Mechanical Engineering Congress and RD&D Expo!

The 2003 Congress will be held in Washington, D.C. at the Marriott Wardman Park and the Omni Shorham Park hotels.

All technical sessions, registration, publication sales and the RD&D Conference will be held at the Marriott Wardman Park Hotel. All other meetings or events will be held at the Omni hotel. The program overview, registration hours, ticket, travel and hotel information can be found at <http://www.asme.org/Congress03>.

Come Celebrate 100 Years of Flight!

To commemorate the centennial of the Wright Brothers' first flight 100 years ago, ASME will hold a special Plenary Session at this year's Congress at the Marriott Wardman Park hotel on Sunday, Nov. 16 from 5:45 to 7PM.

The session will feature a panel of aviation industry leaders.

A reception will follow the program, at which time an honorary medal will be presented to the descendants of Orville and Wilbur Wright.

For more information, log on to:
www.asme.org/events/flight/mesupp.shtml



Big Things Are Happening At ASME!

Attend the ASME Congress keynote address on Monday, Nov. 17 at 5:45pm. This year's keynote session will focus on Homeland Security.

Young Engineers Forum Sunday, Nov. 16, 2003

Effective Presentations and Communication in the Workplace.

Join the 23rd Young Engineers Forum in Washington D.C.! This special event will deliver four informative presentations and a panel discussion. Don't miss this opportunity to meet our experts and walk away with valuable insights for your career.

REGISTER TODAY! www.asme.org/yef/23/program.html ADVANCE \$25, ON-SITE \$30

2004 ARTHUR L. WILLISTON AWARD CONTEST

THE WILLISTON AWARD IS PRESENTED ANNUALLY BY ASME
TO THE STUDENT ENGINEER OR RECENT GRADUATE WHO AUTHORS THE BEST ACCEPTABLE
PAPER IN THE AREA OF CIVIC SERVICE

TOPIC AREA: The Future Role of Mechanical Engineers in Bioengineering

ASSIGNMENT: The rise in biological applications of engineering has been dramatic, with several of the major biomedical advances of the last decades having a distinctly mechanical engineering base. Indeed some undergraduate engineering programs now include a required course in biology as a first step toward preparing students for careers in which physics and chemistry are not the only basic sciences of importance to engineering applications. Some engineering colleges are forming new departments either in bioengineering, which focuses on the application of engineering principles to the study and control of biological processes, or in biomedical engineering, which applies these processes to improving health and human welfare. A recent study commissioned by ASME entitled "The Convergence of the Life Sciences and Engineering" provides a snapshot of the key forces changing and shaping engineering practice. There is clearly a growing role for mechanical engineers in this shift to engineering that is more biologically centered and the 2004 Williston Paper topic is meant to elicit your views on what this might be.

DEADLINE: Papers must be postmarked by Feb. 15, 2004.

Grants Available, First-Come, First-Serve

The Board on Diversity and Outreach's Partners in Mechanical Engineering (Partners) Program provides grants to ASME Sections for innovative projects and activities that support collaboration with local sections or chapters of organizations that support women and underrepresented minority groups in engineering. Grants are awarded on a first-come, first-served basis and range from \$500 to \$1,000, depending on the size and scope of the activity.

Applications for Partners grants may be submitted throughout the year. For additional information, go to <http://www.asme.org/communities/diversities/bdo/partners.html>

Is there anything else you would like to see in this newsletter? Contact Angela Berring (acbn7d@umr.edu) with comments or ideas.