



# THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS®

## Central Oklahoma Section Newsletter

Volume 11, Number 3, October 13, 2009

The Section is located at: Oklahoma Engineering Center, 201 Northeast 27<sup>th</sup> Street, Oklahoma City, OK 73105

The Central Oklahoma Section Newsletter is nominally published nine times per year to convey monthly meeting dates, meeting topics, section activities, and/or other ASME information to its membership.

**TOPIC:** “Exploring the New Normal for the Post-Recession Economy”

**SPEAKER:** Dr. Farrokh Mistree, Director, OU School of Aerospace and Mechanical Engineering (AME)

**DATE:** Thursday, October 22

**LOCATION:** Oklahoma Engineering Center, 201 NE 27<sup>th</sup> St., OKC

**How will globalization affect or change engineering education?** Dr. Mistree notes: I have recently been pushed to think outside my comfort zone by several writers. Specifically, in the context of engineering education and industry, I am increasingly motivated to respond to the challenge recognized by many, and summarized by Thomas Friedman as follows:

*“Globalization has collapsed time and distance and raised the notion that someone anywhere on earth can do your job more cheaply. Can Americans rise to the challenge on this leveled playing field?”*

**Invitation to explore the “New Normal”:** The post-recession economy will be defined by a *New Normal* - one that may require us to adopt game changing strategies to remain competitive. Dr. Mistree’s goal is to foster a dialog to help us understand and define the *New Normal*. He will touch upon salient features that may characterize the post-recession economy, key constructs, and possible solutions. Attendees will have ample time for discussion.

**Be sure to join us on October 22 for this innovative and timely program!**

**Time:** 6:00 - 6:30 PM: Meet at the Okla. Engineering Center  
7:15 – 7:30PM: Introductions and Section Business

6:30 – 7:15PM: Catered Meal  
7:30 – 8:45PM: Program with Prof. Mistree

**Cost:** \$10 for Sr. Members, \$5 for ASME Student Members. Please place your reservation with Albert Janco (Ph: 405-848-1991 (leave message); e-mail: JANCOA@asme.org) by Tuesday, October 20 at NOON.

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## ADDITIONAL OCTOBER MEETING INFORMATION



This fall Dr. Farrokh Mistree, pictured at left, was named Director of the OU School of Aerospace and Mechanical Engineering. Farrokh comes to OU following a distinguished career at the Georgia Institute of Technology. He is both an ASME Fellow and an AIAA Associate Fellow. His spouse, Dr. Janet K. Allen, is a member of the Industrial Engineering faculty at OU. She too is an ASME Fellow. Farrokh's design experience spans mechanical, aeronautical, structural, and industrial engineering and his teaching experience covers courses in engineering design, naval architecture, solid mechanics, operations research, and computer science.

Dr. Mistree has many publications spanning (a) total systems development techniques from specification to design, fabrication, deployment, and operation, (b) design and support of open and sustainable engineering systems, (c) computer-based methods and tools for engineering systems design and creation, and (d) enterprise integration.

**Motivation for Dr. Mistree's presentation is:** "The College of Engineering at the University of Oklahoma has unveiled a Strategic Plan for 2009-2013. Our School will be aligning its Strategic Plan with that of the College of Engineering and the needs and aspirations of its stakeholders which include alums, the OU community, the region, the state and nation." **All of our members concerned with Engineering Education should attend this session!**

### ATTENTION MEMBERS: Judges needed for OKBEST Competition, October 17

OKBEST is a robotics program that encourages Jr.- and Sr.-high school students to select careers in science and engineering. The "BEST" program, of which OKBEST is a part, is designed to teach teamwork, problem solving, project management and pride in task completion. This is accomplished through the partnerships of participating schools with corporate sponsors. Engineering faculty members at Oklahoma Christian University have been leading OKBEST sponsors since its inception in 1998. Below is the competition schedule for Saturday, October 17:

- 8:30 AM: Staff check-in.
- 9:30 – 10:30 AM: Doors open for general technical help.
- 10:15 AM: Official check-in begins.
- 11:30 AM: Opening ceremonies.
- 12:00 noon: Matches begin.
- 3:15 PM: End of seeding competition
- 3:30 PM: Semi-Finals begin.
- 5:00 PM: Finals begin.
- 6:00 PM: Awards & photos.



Please contact Dr. Bill Ryan at 405-420-1987  
or [bill.ryan@oc.edu](mailto:bill.ryan@oc.edu) if you would like to help judge.

#### The 2010 ASME Student Design Competition (SDC) EARTH SAVER: Autonomous Material Sorter



##### Overview:

Recycling is a global industry accounting for more than 1.5 million jobs and \$100 billion in annual revenue<sup>1</sup>. As a whole, the industry currently processes more than 600 million metric tons of material annually, growing with the expansion of the global, green economy. This global expansion presents an increased need for new, efficient and cost-effective waste material sorters. The goal of the 2010 ASME Student Design Competition is to design, build, and test an autonomous system capable of accurately sorting common recyclable materials, namely ferrous and non-ferrous metals, plastics and glass into distinct waste containers.

Your job is to design, build, and test a system capable of rapidly and accurately sorting the four waste materials noted above into distinct waste containers. This system must operate autonomously and be capable of both material identification and waste handling. Points will be awarded based on the proper identification and handling of the waste materials, as well as the speed required to process the materials and the weight of the device.

### 2010 Student Design Competition to Focus on Recycling

The screen-shot at left provides an overview of this year's Student Design Competition challenge. The task is to design a materials sorter to more efficiently and economically sort through mounds of waste and/or recyclable materials.

Students must design, build, and test their material sorters with objectives to (a) quickly and accurately sort through materials and (b) place materials in proper containers. Sounds like a tough challenge!

Students will present their projects at the ASME Spring Student Conference. More information is available at

[http://www.asme.org/Events/Contests/DesignContest/Student\\_Design\\_Competition.cfm](http://www.asme.org/Events/Contests/DesignContest/Student_Design_Competition.cfm).

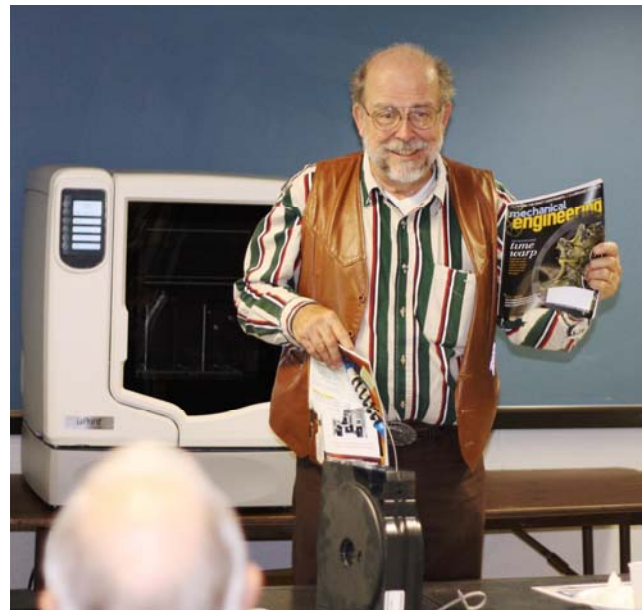
## Photos from our September Section Meeting – Rapid Prototyping



Here are pictures from our September Section meeting that was held at Oklahoma Christian University. Rapid Prototyping (RP) was the topic.

Pictured above left is Mr. Chad Standifer, technical representative for Texas Engineering Systems, presenting *Dimension* 3-D printers that “print” layers of plastic that eventually become RP models. These machines range from approximately \$14,000 to \$25,000 depending on size, number of options, etc. Pictured above right are some RP models presented by Mr. Standifer. These models clearly showed how powerful the RP process can be!

Pictured at right is our host, Professor Bill Ryan, who noted that a good RP article was included in the September 2009 edition of *Mechanical Engineering* magazine (that you all should have received). Behind Prof. Ryan is a *UPrint* RP machine while in front is a black spool container holding RP thread material. This material is a lot like Weed Eater string.



***This month's Spotlight: ASME Member Pride*** ([go.asme.org/membersavvy](http://go.asme.org/membersavvy))

Dear Members

The world is changing at blinding speed. Major discoveries are made every day. New inventions and innovations dramatically benefit billions of people around the globe each year. So, who is on the forefront of all this change? OK, that was a loaded question and you knew I was going to say Mechanical Engineers, didn't you? Well, believe it! Mechanical Engineers are making the world better, safer, cleaner and healthier!

Mechanical Engineering encompasses so many disciplines and touches every aspect of our lives. This is truly an exciting time to be a Mechanical Engineer, and your fellow ME's are working on some pretty amazing things right now:

- Dr. Danny Olivas, a Mechanical Engineer (and ASME Member) is on the Space Shuttle Discovery as we speak. By the time you read this, Dr. Olivas will have made three spacewalks and helped improve the International Space Station as part of the mission.
- Nano Researchers in California are reporting development of a "NanoPen" that could provide a quick, convenient way of laying down patterns of nanoparticles — from wires to circuits — for making futuristic electronic devices, medical diagnostic tests, and other nanotech applications.
- A group of students from Rice University recently won the ASME I-Show (Innovation Showcase) competition for a medical device that can aid physicians and other health care professionals in evaluating muscle injuries in the hand.

I take great pride in my ASME Membership and so should you! I challenge you to get out from behind your desks and spread the word about the amazing work you do every day. Mechanical Engineering is F-U-N. And creative. And important. And exciting. Share your pride with your neighbors and friends. Share your pride with your children and their friends. Show your excitement when you tell them what you do for a living. Mechanical Engineering is anything but boring. Today, I am sharing my **ASME Member Pride** with you, and I hope you do the same with people you know!

Along that line, this month I'd like you to share something about yourself. Please send an e-mail to [membership@asme.org](mailto:membership@asme.org) and let me know why you are proud to be a Mechanical Engineer (or an ASME Member). I'll share some of the responses in a future Member Savvy.

Warmest regards,

Michael Kreisberg, Director, ASME Membership Development ([kreisbergm@asme.org](mailto:kreisbergm@asme.org))

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### ***IGTI and IPTI to Sponsor Engineering Ethics Webinar***

ASME's International Petroleum Technology Institute (IPTI) and International Gas Turbine Institute (IGTI) will co-host a webinar, titled "Engineering Ethics in Action," on Oct. 29 at 11:00 a.m. Eastern Time.

This one-hour class will feature interactive discussions with focus on technical decisions that engineers must make in the workplace. **Each registrant may receive one professional development hour (PDH) upon completion of the webinar.** During the webinar, participants will have the opportunity to:

- Analyze situations which require ethical decision-making.
- Apply an engineering code of ethics to situations requiring ethical decision-making.
- Identify resources for ethical decision-making.

**The webinar's instructor, Andrew Taylor, P.E.,** is a member and past chairman of the ASME Committee on Ethical Standards & Review, and has dealt with ethical dilemmas in the U.S. military and the commercial nuclear power industry for more than 25 years. He is a senior lead engineer for Entergy Nuclear Inc., and serves on the executive board of the National Institute for Engineering Ethics.

**Registration is \$198 for ASME members, \$298 for nonmembers.** Windows 2000, XP Home, XP Pro, 2003 Server, or Vista are required to participate in the webinar on a PC. Macintosh-based participants will need the Mac OS X 10.4 or newer operating system.

**Space is limited, so register now by contacting Shirley Barton, professional development manager at (404) 419-1647, e-mail [bartons@asme.org](mailto:bartons@asme.org).**

### **Compressed Air Could Be Used To Store Energy**

From NSPE's *Daily Designs* publication, September 10, 2009

The [Philadelphia Inquirer](#) (9/9, Maykuth) reported, "A central New Jersey company says it believes it has figured out a way in the green economy to make money from air. Compressed air." According to the article, "Energy Storage & Power L.L.C....has devised a patented system for storing electricity in compressed air, which is pumped into caverns, abandoned mines, or aboveground canisters and then released when it is needed to generate power." These mass-storage systems are expected to be "increasingly necessary as more power is derived from intermittent sources such as wind and solar generators." Among several alternatives such as "ice-storage systems, pumped-storage hydroelectric plants, massive battery arrays," the Inquirer notes, "the compressed-air systems are considered the most cost-effective."

### **Study: Oklahoma Aquifer Project Would Have Depleted Area Springs and Streams**

From NSPE's *Daily Designs* publication, September 28, 2009

The [Durant \(OK\) Daily Democrat](#) (9/28) reports, "The attempt by a group of communities based in Canadian County to pump more than 80,000 acre feet of water from the Arbuckle-Simpson aquifer and transport it to central Oklahoma in 2002 would have depleted area springs and streams if allowed to proceed," according to a state study, which "shows landowners leasing or pumping groundwater for other than domestic use will be forced to reduce the amount of water pumped per acre in order to protect streams and springs in the area." The coordinator of the project noted that "the five-year study focused on the eastern portion of the aquifer overlaying Johnston, Pontotoc and Murray counties, and was completed at a cost of \$4.2 million." The study "will narrow the groundwater permitting process by the OWRB to grant permits that are "not likely to degrade or interfere with springs or streams emanating from the aquifer."

### **Texas Study: "Net-Zero" Power-Generating Homes Would Dramatically Cut Pollution**

From NSPE's *Daily Designs* publication, October 2, 2009

The [AP](#) (10/2, McFarland) reports, "Building all new homes with solar power so they can generate the same amount of energy they use would dramatically clean Texas skies and save billions of dollars in utility bills," the Environment Texas Research and Policy Center said in a report released Thursday. The environmental group's "study concludes that 'net-zero' homes would cut energy demand so much that seven otherwise necessary power plants would not have to be built and consumers would save more than \$5 billion." According to the group's estimate, "the reduced annual emissions in the nation's leading greenhouse-gas producing state would be the equivalent to cutting the pollution of more than 3 million cars by 2030."

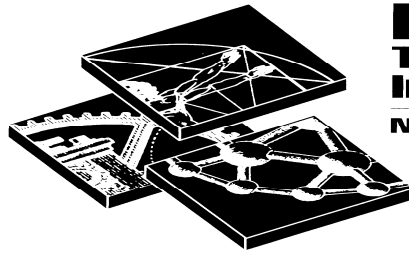
### **EPA Rules May Limit U.S. Refineries, Increase Gasoline Imports**

From NSPE's *Daily Designs* publication, October 2, 2009

[Bloomberg News](#) (10/1, Lomax, Loder) reports that Charles Drevna, president of the National Petrochemical and Refiners Association, warned in a phone interview that "new greenhouse gas regulations from the Environmental Protection Agency threaten to halt U.S. refinery upgrades and expansions, which could boost gasoline imports." Drevna explained, "Any time you increase capacity, or if you want to upgrade your refinery to use a wider range of crude oils, you could trigger these new regulations." The recently announced EPA rules that would require newly built industrial facilities, or existing ones that undergo major modification to "use 'best available control technology' to reduce their emissions if they are responsible for more than 25,000 tons of greenhouse gases a year," places "the nation's oil refineries in the crosshairs of the new regulations."

### **ATTENTION MEMBERS: PLEASE RENEW YOUR ASME MEMBERSHIP ASAP!**

It's that time of year again to renew professional society memberships including ASME. **October 1 was the renewal cut-off but there is still time!** You may renew on line (<http://www.asme.org> → **MEMBERSHIP** → **RENEW**) or the old-fashioned way via U.S. Mail. Feel free to contact ASME-New York if you have questions (phone 800-843-2763).



**ENGINEERS**  
**Turning Ideas**  
**Into Reality**  
**NATIONAL ENGINEERS WEEK**

**2010 “Engineer for a Day” Program – Can your company sponsor a student participant?**

It’s that time of year again to launch the *Engineer for a Day* program that will be held during Engineer’s Week, February 14 – 20, 2010. This program, sponsored by the Oklahoma Society of Professional Engineers, allows high school-age students to accompany sponsoring engineers during a typical day’s work and activity. These students learn first-hand what engineers do and see what the various challenges are. To cap off the experience, student participants are invited to attend the *Joint Engineering Societies Banquet* to be held Thursday, February 18.

Area companies that sponsored *Engineer for a Day* students last year include BJ Services Company, Boeing, C. H. Guernsey & Co., City of Norman, City of Oklahoma City, Federal Highway Administration, ICX Nomadics, MacArthur Assoc. Consultants, OG&E Electric Services, Terracon, The Benham Companies, and Tinker AFB Engineering Groups.

Would your company be interested in hosting a student this year? If so or if you have questions please contact Ms. Kelly Duke at (phone) 405-858-8800, ext. 110 or via e-mail at [kelly@principaltechnologies.com](mailto:kelly@principaltechnologies.com). Kelly is the *Engineer for a Day* Chairman who can provide much assistance for getting your company matched up with a prospective *Engineer for a Day* student!



*Quality-Related Lean-Six Sigma Courses to be Offered at OCCC*

Oklahoma City Community College will begin a series of training courses for Lean Sigma White Belt, Yellow Belt and Green Belt on November 3. These are blended course that combine on-line learning with the classroom experience.

Dates (2009-2010):

Course	Dates	Hours	Cost
Lean Sigma White Belt	Nov 3, Dec 8	6	\$495
Lean Sigma Yellow Belt	Nov 3, Dec 8, 9	18	\$995
Lean Sigma Green Belt	Nov 3, Dec 8, 9, Jan 5, 6, Feb 2, 3	38	\$2395

For more information visit <http://www.occc.edu/corporatelearning/pdf/LeanProgramCalendar.pdf> or contact John Claybon, OCCC, 405-682-7855.

OCCC also offers a number of **Corporate Learning** short-courses (<http://www.occc.edu/corporatelearning/>) and Career Transitions courses (<http://www.occc.edu/Career/>).

## Chair's Corner

### Dear ASME-Central Oklahoma Section Members:

Hello everyone! Hope you all have had a fun-filled albeit short fall! Seems like we're on the verge of winter already! The cool, cloudy, wet weather has been a boon to many toadstool clumps that sprouted in our yard, literally a fungus among us!

In case you were unable to attend, our September meeting at Oklahoma Christian University (OC) was really good. Professor Bill Ryan provided a good program on Rapid Prototyping (RP) showing projects that OC students completed. It was great from an engineering perspective as Prof. Ryan explained how they've learned what to do and what not to do when preparing the RP machine to fabricate a part. Sales representatives have typically not been part of our Section programs, but Mr. Chad Standifer, pictured on page 3, brought many finished RP models and was very good at explaining RP machine capabilities. **Many thanks to Professor Ryan and Mr. Standifer!**

It appears the overall job picture in our State continues to weaken. Lay-offs/workforce reductions are now affecting petroleum-related industries that heretofore have held up pretty well. Petroleum is at the core of our economy so this does not bode well. I will continue to monitor the situation and offer job opening information as it becomes available. Please contact me if you would like to use our Job Openings/Situations Wanted column.

**Again, our October program promises to be very good and leading-edge.** Dr. Mistree has very creative and innovative ideas on many subjects including Engineering Education. How will engineers be educated in the future? Is the traditional classroom setting going away? If so, what affect may this have on students' abilities to work in teams where people skills often trump technical abilities? There promises to be some lively discussion so please plan to attend!

**Curtis M. Vickery, Chair**

### Future ASME-Central Oklahoma Section Events

Date	Location	Program Topic and Speaker
Thursday Oct. 22, 2009	Oklahoma Engineering Center, OKC	Dr. Farrokh Mistree, Director, OU School of Aero. & Mech. Engr. "Exploring the New Normal for the Post-Recession Economy"
Thursday Dec. 10, 2009	TBA	TBA
Thursday Jan. 28, 2010	Oklahoma Engineering Center, OKC	Joint meeting with the Oklahoma AIAA Section Speaker/Topic TBA

Please visit our Section website <http://sections.asme.org/CentralOK/>

**IT'S BEEN UPDATED.** Check event updates and other useful information!