



THE AMERICAN SOCIETY OF

Central Oklahoma Section Newsletter
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The Section is located at: Oklahoma Engineering Center, 228 NE 28th St, Suite 125, 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.

***** ANNUAL ETHICS & PROFESSIONAL PRACTICE MEETING *****



PROGRAM TITLE: "Rules of Professional and Ethical Conduct"

SPEAKER: Mr. Mark Kirk, Director of Communication, Oklahoma Board of Licensure for Professional Engineers and Land Surveyors (OBLPELS)

DATE: Thursday, March 27 **LOCATION:** Okla. School of Science & Mathematics (OSSM), 1141 N. Lincoln Blvd, OKC (ENTER FROM 10th Street to OSSM LIBRARY)

The Oklahoma Board of Licensure for Professional Engineers and Land Surveyor's (OBLPELS) mission is to protect the health, safety, property, and welfare of citizens. This is accomplished by their commitment to enforcement to ensure that licensees are performing their professional services in conformity with (a) the intent and purpose of the law, (b) related rules of professional conduct and (c) to protect the public from unlicensed practitioners.

Mr. Mark Kirk will review the rules of professional conduct found in the Oklahoma Administrative Code. To reinforce the impact and meaning of these rules, he will interject past case studies that resulted in disciplinary action. Also be discussed are audits associated with continuing education requirements and how ethics are involved in such audit cases. **Please join us for this important meeting on March 27! We are limited to 30 attendees.**

2-hour PDH certificates will be available for attendees.

Time: 5:30 - 6:00PM: Meet & Register at the OSSM Library.	5:30PM: Optional OSSM tour.
6:00 – 6:30PM: Pizza Meal, Section Business, Introductions.	6:30PM: First Session – Ethics.
7:30 – 7:40PM: Break	7:40PM: Second Session - Ethics.
8:40PM: Conclusion and Adjourn.	
Cost: \$5 for all Attendees. Please place your reservations with Albert Janco (Ph: 405-848-1991 or e-mail: JANCOA@asme.org by 6:00PM Tuesday, March 25. Indicate if you wish to participate in the OSSM tour.	

2013-2014 COS Executive Committee	Directors	Ex-Officio Directors
Officers		
Ed Reynolds Chair Ph: 405-721-6753; Edwin_c_reynolds@yahoo.com	Doug Brown Director Ph: 580-536-0363 ; brownd919@asme.org	Wayne Whaley, Ph.D. OC Bus: 405-425-5424 ; wayne.whaley@oc.edu
Tom Betzen, P.E. 1st Vice-Chair Michelin North America Bus: 580-221-2280; e-mail: betzent2@asme.org	Mike Frey Director Ph: 405-341-4480 ; freym1@asme.org	Cengiz Altan, Ph.D.OU Bus: 405-325-1737 ; altan@ou.edu
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Frank Chambers, Ph.D., P.E.Secretary Bus: 405-744-5901 ; chambersf@asme.org	Ed Root Director Phone: 405-946-3254 ; emroot@cox.net	Jim Bose, PhD, PE OSU-MET Bus: 405-744-9458 ; jbose@okstate.edu
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	Nathan WeberMembership Development 405-595-7415; e-mail: weber2@asme.org	Feng C. Lai, Ph.D.OU Bus: 405-325-1748 ; flai@ou.edu
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		Rick Beier, Ph.D.OSU-MET Bus: 405-744-9371 ; rck.beier@okstate.edu

ADDITIONAL MARCH MEETING INFORMATION

Our speaker, Mr. Mark Kirk, was born and reared in Perry, Oklahoma before attending Oklahoma State University where he graduated with a degree in Social Studies - Secondary Education. He later earned a Master's Degree in Education from the University of Central Oklahoma. Mark taught at Heritage Hall, Yukon and Edmond for a total of 29 years before joining the Board in January 2008. He first worked as an Investigator for over five years before moving to Communications Director. His duties now include student outreach, professional outreach, the continuing education audit, website updates, FE conversion to CBT and various other duties for the Board.

ASME Student Members: Scholarship Application DEADLINE APPROACHING!

Our ASME Section will again award scholarships to Oklahoma ASME Student Section engineering students. **The application form is on pages 7-10 of this newsletter.** **Deadline for scholarship application submission is March 31, 2014.** Contact Frank Parker for more information -- see page 1 of this newsletter (under Officer's Listing) or the application's 3rd sheet (under Applicant's Signature) for contact information.

REMINDER: XXXIV Oklahoma AIAA/ASME Symposium

Saturday, March 29, 2014 *Oklahoma Christian University, Edmond*



American Institute of Aeronautics and Astronautics



The American Society of
Mechanical Engineers

Our annual AIAA-ASME Symposium offers a great opportunity for area engineers and engineering students to gather with objective to listen to and discuss technical papers covering a wide range of high-interest topics. **The registration fee to attend is only \$5 for students and \$15 for other professionals beginning at 8:00AM on Saturday, March 29.**

- Location:** Prince Engineering Center, Oklahoma Christian University, 2501 E. Memorial Road, Edmond, OK. (Bldg 34, on OC campus website link: www.oc.edu/campus/map/print/oc-campus-map.pdf)
- Time:** Registration at 8:15 a.m., Welcome & Kick-Off at 9:00 a.m., Sessions at 9:15 a.m., Break at 10:30 a.m., Sessions at 10:45 a.m., Luncheon at 12:15 p.m.
- Reservations:** Please contact Dr. Bill Ryan, Symposium Chairman, at bill.ryan@oc.edu or Ph. (405) 420-1987 by Wednesday, March 26th (Noon).

The Symposium will have parallel morning technical sessions and will end after a luncheon with an invited speaker. This year's speaker is Mr. Geoffrey Rodman of Lockheed Martin company. Mr. Rodman is the Lead Manufacturing Engineer, for tooling and floor support, for the Air Force's F-35 JSF Mate aircraft.

For additional information contact Dr. Bill Ryan, Symposium Chairman, at (405) 420-1987 (bill.ryan@oc.edu). **Plan to attend this event!**

Engineering Fair - J. Bruce Stout Rubber Band Powered Vehicle Contest Results

The annual Oklahoma Engineering Fair was held Tuesday, February 18th, at Rose State College (RSC) in Midwest City, OK. There were 700 students attending from several schools from around Oklahoma. Available competition events for students to participate included the **Bruce Stout Rubber Band Powered Vehicle Contest** sponsored by our ASME Central Oklahoma Section.

Those helping with and judging the competition were Albert Janco, Frank Parker, Ed Root, Robert Rucker, & Ed Reynolds. Other volunteers assisting were Francis-Tuttle Pre-Engineering Academy (PEA) students Ethan Boneau, Andrew Calvert, & Tanner Cowan.

Fifty (50) students ran their vehicles in the contest. Winning entries receiving awards from OEF (Oklahoma Engineering Foundation) were:

- **1st Place:** Leslie Phelps & Austin Nephew, Tonkawa Middle School, Tonkawa, OK. – 44-ft, 10-in.
- **2nd Place:** Michael Mitchell, Corn Bible Academy, Corn, OK. – 26-ft, 4-in.
- **3rd Place:** Caitlyn Williams, Brink Junior High School, Moore, OK. – 24-ft, 8-in.

Additional information on the 2014 Engineering Fair with competition results may be viewed on the following website link: <http://oef.org/programs/engineeringfair/> . Special thanks to our volunteers & student participants. Congratulations to all our student competitors!

SUBMIT NOMINATIONS NOW!! ASME Central Oklahoma Section Awards

The Executive Committee has established seven (7) awards to recognize the section and student members who are making outstanding contributions to their section or the profession of mechanical engineering. The recipients of these awards will be recognized at the April 28th Central Oklahoma Section Meeting.

Outstanding Engineer Award – To be presented for outstanding professional and technical organization activities and achievements. Also considered will be community and civic activities along with awards received. The nominee must be a member of ASME.

Minority and Women Engineer-of-the-Year Award – To be presented for outstanding professional and technical activities by a minority or woman engineer. In addition, community and civic activities will be considered as well as awards received. The nominee must be a member of ASME.

Outstanding Engineer-in-Management Award – To be presented to the engineering manager deemed by the nominator to have done an outstanding job in furthering the goals of ASME and the engineering profession. The ability to select and develop engineers as well as to communicate with and motivate engineers will enter into the selection of awardee. The nominee must be a member of ASME.

Outstanding ASME Student Member Awards – Four awards will be made in recognition of academic achievement and outstanding service to an ASME student section. The Jerald D. Parker Award will be awarded at Oklahoma Christian University; The James H. Boggs Award will be awarded at Oklahoma State University/MAE; the Tom J. Love Award will be awarded at the University of Oklahoma & an Outstanding Student Award will be awarded at Oklahoma State University/MET.

For application and/or additional information contact: Ed Reynolds, 6507 N.W. 96th Street, Oklahoma City, Ok. 73162, Phone: (405) 721-6753, E-mail: edwin_c_reynolds@yahoo.com (**Nomination deadline is March 26, 2014**)



Chair's Corner

Members of our ASME COS attended & participated in several activities/events during Engineers Week, February 16-22, 2014. The Engineering Fair was held at Rose State College on February 18th & the Joint Engineering Societies Banquet was held at Oklahoma Christian University on February 20th. Dr. Paul Tikalsky, Dean, OSU College of Engineering, Architecture & Technology (CEAT) presentation on "Engineers for the Next Generation" was well received by the ninety-eight (98) "Engineer for a Day" student attendees, parents, sponsors, technical society members & guests. Our thanks to Curtis Vickery for his efforts in the planning & success of this event.

The Oklahoma AIAA/ASME Symposium XXXIV will be held at Oklahoma Christian University on Saturday, March 29, 2014. The purpose of this symposium is to encourage communication among engineers of Oklahoma's universities & industries. Our members are invited to participate by helping to organize a session, chairing a session, presenting a paper, and/or attending presentations to listen & discuss the papers with authors. The symposium provides a great opportunity for academic & industry representative to author & present papers.

Our ASME COS nominating committee is currently in the process of putting together a ballot for 2014-2015 Executive Committee Officers & Directors. The continued success of our ASME Central Oklahoma Section depends largely on the participation of our individual members. Our Section needs volunteers to serve on the Executive Committee as well help with various programs. We have several committee slots that remain unfilled and there is always a need to expand our activities. A little of your time goes a long way to help yourself and others to take advantage of the many benefits ASME offers mechanical engineers right here in Oklahoma.

If you are interested in helping our ASME section as well as a rewarding experience for yourself, then please contact me, Phone: (405) 721-6753 (Hm) or (405) 620-6193 (Cell); E-mail: edwin_c_reynolds@yahoo.com, or one of our executive committee members. We look forward to your help & support!

Our March 27th meeting will be of special interest for all of us. Details are included in this newsletter. Hope you can join us for this months meeting on Thursday, March 27th. Please plan to attend & bring a friend.

Edwin C. Reynolds

Chair, ASME Central Oklahoma Section

NSPE MILTON F. LUNCH ETHICS CONTEST

Try your hand at the following ethical dilemma. This scenario, for the Milton F. Lunch Ethics Contest, allows engineers and engineering students the opportunity to solve an ethical case study. For more information on ethics and this contest, see <http://www.nspe.org/resources/ethics/ethics-resources>.



FACT SITUATION: Engineer A works for the State X Department of Transportation and is the in-house project manager on a construction project being performed by Contractor Q for State X. Contractor Q submits a change order for Engineer A's approval on work already performed by Contractor Q. The normal practice is for a contractor to first seek review and approval of a change order by the project manager (in this case, Engineer A) before commencing the work. Engineer A believes, in his engineering judgment, the change order is actually the result of Contractor Q's faulty workmanship and not the result of any changes directed or required by State X. Following a lengthy conversation between the Engineer A and Contractor Q during which Engineer A informs Contractor Q that he will not sign off on the change order, Contractor Q contacts Supervisor B who supervises Engineer A. The next day, Supervisor B who is not a professional engineer, directs Engineer A to sign off on the change order.

QUESTION: *Would it be ethical for Engineer A to sign off on the change order?*

**The American Society of Mechanical Engineers -- Central Oklahoma Section
Ballot for 2014-2015 Executive Committee Officers and Directors**

<u>POSITION</u>	<u>NOMINATING COMM. NOMINEE</u>	<u>VOTE</u>	<u>YOUR WRITE-IN NOMINEE</u>	<u>YOUR VOTE</u>
OFFICERS				
Chairman	Tom Betzen, P.E.	_____	_____	_____
First Vice-Chairman	Doug Brown	_____	_____	_____
Treasurer	John McCachern, P.E.	_____	_____	_____
Secretary	Frank Chambers, Ph.D., P.E.	_____	_____	_____
Vice-Chair, Programs	Albert Janco, P.E.	_____	_____	_____
Vice-Chair, Membership	Albert Janco, P.E.	_____	_____	_____
Vice-Chair, Prof'l Dev't	Curtis Vickery, Ph.D., P.E.	_____	_____	_____
DIRECTORS				
	Nathan Weber, P.E.	_____	_____	_____
	Mike Frey	_____	_____	_____
	Ed Root	_____	_____	_____
	Chulho Yang, Ph.D.	_____	_____	_____
	Frank Parker, P.E.	_____	_____	_____
	Vladimir Yun	_____	_____	_____
	John Heaton, P.E.	_____	_____	_____
	VOLUNTEERS NEEDED	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

TO VOTE FOR COMPLETE NOMINATING COMMITTEE SLATE, CHECK HERE

EX-OFFICIO MEMBERS OF THE EXECUTIVE COMMITTEE (for information only)

Past Chairman (2013-2014): Ed Reynolds, P.E.

STUDENT SECTION FACULTY ADVISORS AND DEPARTMENT HEADS:

<u>UNIVERSITY</u>	<u>FACULTY ADVISOR</u>	<u>DEPARTMENT HEAD</u>
Oklahoma Christian University	Bill Ryan, Ph.D.	Wayne Whaley, Ph.D.
Oklahoma State University-MAE	Ron Delahoussaye, Ph.D.	Daniel E. Fisher, Ph.D.
Oklahoma State University-MET	Rick Beier, Ph.D.	James Bose, Ph.D., P.E.
University of Oklahoma	Fen Lai, Ph.D.	Cengiz Altan, Ph.D.

Below is the 2014-2015 Exec Committee Officer/Director election ballot that needs your careful consideration and action.
 A terrific slate of candidates has been identified to lead our Central OK Section for the next program year, but we need additional interested members to serve as Directors to fill and/or help with various committees. Executive Committee is challenging and personally rewarding. If interested in serving as a Director, feel free to nominate yourself! If you or any potential candidate has any questions regarding Exec Committee service, please contact Ed Reynolds at (405) 721-6753 (edwin_c_reynolds@yahoo.com). Most importantly – **PLEASE VOTE !!!** Mail your ballot to Ed Reynolds at 6507 N.W. 96th Street, Oklahoma City, OK. 73162, or bring it to our March Section Meeting, on March 27th. Serving on the Section

Coming Soon: A 3D Printed Car (abridged for length)

(by Chitra Sethi via https://www.asme.org/engineering-topics/articles/automotive/coming-soon-3d-printed-car?cm_sp=Home_-_HomeHero_-_Coming-Soon-3D-Printed-Car)

In May of 1903, auto enthusiast Dr. Horatio Jackson *et al* set out from San Francisco to New York City in a Winton car. They completed the first ever cross-country road trip in a motor car in 2-months and 9-days, using 800-gallons of gasoline. **In the summer of 2015, teenagers Cody Kor and Tyler Kor will re-enact Horatio's drive, taking just 2-days and using 10-gallons of bio-fuel in Urbee-2, the first 3D printed hybrid car.**



The two teens are sons of Jim Kor, the president of a Winnipeg-based engineering group. Urbee-2 is the second prototype of Urbee, a self-initiated vehicle research project that he started with his team of designers and engineers in 1996. “We used to work on interest-driven research projects and most of them were focused on energy efficiency because of my personal interest,” says Kor, who believes powering cars on renewable energy is vital to our civilization’s survival.

Eco-Friendly Vehicle: Originally designed for the 2010 Automotive X-Prize Competition, Kor’s vision was to build the greenest and most practical car ever made. A mechanical engineer from the University of Manitoba with three decades of experience designing farm machinery, Kor was inspired by Dr. Paul MacCready’s strategy to use all the technology that’s available when solving a problem. “When we thought of designing the greenest car possible, we decided to use whatever we could find. If a fuel-cell would make it more efficient we would use that or a piston engine.”

Kor and his team decided to build Urbee as a gasoline/ethanol hybrid car. It uses electrical energy stored on batteries to power electric motors and chemical energy from ethanol to power the internal combustion engine. At city speeds, the car runs on pure electric and at highway speeds, it uses the ethanol-fueled IC engine. The car is capable of reaching more than 200 mpg and the goal for Urbee-2 is 300 mpg. Its batteries can be charged using a standard wall plug at home or parking lot.

Urbee minimizes the amount of energy required to move forward through efficient aerodynamics, incorporating three versus four wheels. “We wanted to get the force at the tire on the road as low as possible,” says Kor. The three wheels improve the aerodynamics. Explains Kor, “the most resistance will be where the tires poke out at the body. We have only three slots where tires poke through and that causes the least resistance.”

From 3D Printer to Road: To make Urbee as sustainable as possible throughout the design and manufacturing processes, the team considered building the prototype body panels using fiberglass, but that would have meant a long and labor-intensive process. Stratasys, their key sponsor, offered to make it using a 3D printer. “We completed the body in clay, scanned it onto the computer, simulated the aerodynamics, and then approached Stratasys to 3D print it,” Kor recalls. Toward that end, the engineering team used ABS plastic and fused deposition modeling to fabricate a light and strong body for the eco-friendly car.

Kor was awed by the speed of 3D printing, “To have body parts within weeks is pretty fast. The alternate would have been months using fiber glass and we couldn’t make the small parts as we wanted them to be.” According to him, additive manufacturing processes made it easy and efficient to make design changes in the Urbee along the way. “I realized that when you design for a 3D printer ... the parts can be changed rapidly and be dramatically better,” says Kor.

After achieving technical success with Urbee in 2013, the Kor Ecologic team initiated Urbee-2, last spring. Urbee-2 will have its exterior and interior parts 3D printed except the engine and chassis. “Everything you see and touch would be 3D printed – which is almost 50-60% of the car,” says Kor.

Currently, Kor’s team is using crash simulation software to streamline the safety features, and also waiting for more funding to complete the second prototype. “We need a year to design, another year to build and test it. Then my two sons would attempt this cross-country trip in Urbee-2,” he says.



Future ASME-Central Oklahoma Section Events

Date	Location	Program Topic and Speaker
Thursday March 27, 2014	Okla. School of Science & Mathematics (OSSM) 1141 N. Lincoln Blvd. OKC, OK	March Section Meeting – Professional and Ethical Conduct Speaker: Mr. Mark Kirk, Director of Communications, Okla. Board of Licensure for Prof. Engrs. & Land Surveyors.
Thursday April 24, 2014	TBD	April Section Meeting: Honors & Awards Speaker TBD
Thursday May 22, 2014	TBD	May Section Meeting: Plant Tour TBD

Please visit our Section website:

https://community.asme.org/central_oklahoma_section/default.aspx

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

ACADEMIC DATA SUMMARY

Academic Course Hours Completed: _____ Current GPA: _____ Major: _____

Currently Enrolled Course Hours: _____ Expected Graduation Date: _____

Please attach a current transcript or complete college grade record: either an original, official transcript with embossed seal/stamp or a printed (unofficial) copy signed by your ASME Advisor.

Fill in the Student Activities Information in the spaces below, complete with your dated signature.

STUDENT ACTIVITIES INFORMATION

List all activities for the areas below. Include any offices held and the year serving in those offices. You may attach a separate page if more room is needed. Please type, print legibly, or complete electronically all information.

Honorary Organizations:

Scholarships and Awards:

University Organizations and Professional Societies: <i>(including ASME Student Section positions held)</i>

College or Departmental Organizations:

Extra-curricular Activities:

ASME Central Oklahoma Section Engineering Scholarship Application - Financial Data

Applicant: _____
 Last Name First Name Middle Initial

Estimated Annual Financial Data (from 1 June 2014 through 31 May 2015)

Annual Sources of Funds	Amount	Annual Tuition & Expenses	Amount
Job Income	\$		\$
Student Loans	\$		\$
Other Scholarships/Grants	\$		\$
Support from Parents/Family	\$		\$
Personal Savings	\$		\$
Other	\$		\$
Total	\$	Total	\$

These figures reflect my financial situation accurately and completely.

 Applicant's Signature

 Date

Please note: this page must be submitted TOGETHER WITH the **Application Form** and **Evidence of Attendance & Academic Performance**, to form a complete application. Do not send this page separately!