



SAE Milwaukee Section Newsletter

May 2012

www.milwaukeeesae.com



Oshkosh Corporation
Wednesday May 23rd, 2012
Oshkosh, WI
5:00PM

Tour, Dinner, and Technical Presentation

ABOUT OSHKOSH

Oshkosh Corporation is a leading manufacturer and marketer of access equipment, specialty vehicles and truck bodies for the primary markets of defense, concrete placement, refuse hauling, access equipment and fire & emergency.



Oshkosh Corporation's mission is to "partner with customers to deliver superior solutions that safely and efficiently move people and materials at work, around the globe and around the clock." In short, we strive *"To Move the World at Work"*®.

The company's major brands - Oshkosh, JLG, Pierce, McNeilus, IMT, Medtec, Frontline, Jerr-Dan, CON-E-CO and London - are considered leaders in their industries. JLG leads with a diverse product portfolio including leading brands such as JLG® aerial work platforms; JLG, SkyTrak® and Lull® telehandlers. Under its Pierce® brand, Oshkosh is North America's top fire truck manufacturer. Oshkosh is among the world's principal defense vehicle manufacturers. McNeilus® brand concrete mixers are used by more concrete producers than any other. McNeilus is also North America's leader in refuse collection bodies. Jerr-Dan is a top name in towing and recovery equipment. CON-E-CO is a chief U.S. concrete batch plant manufacturer, and London is the leading Canadian concrete mixer manufacturer.

Founded in 1917, Oshkosh Corporation has manufacturing operations in eight U.S. states and in Australia, Belgium, Canada, China, France, The Netherlands and Romania and through investments in joint ventures in Mexico and Brazil. The company currently employs approximately 13,100 people worldwide.

DISCUSSION TOPICS

Effect of Porosity on Service Performance of Ferrous Castings

Vadim Pikhovich,
Sr. Principal Engineer,
Materials and Process Engineering

Development of computer-aided casting design methodology to predict the service performance of structural ferrous castings that contain porosity. Porosity in a casting can be detected using a variety of NDE methods. It can also be predicted using casting simulation. The results from such a prediction could be transferred to stress and fatigue analysis codes to predict the effect of the porosity on the structural performance of a casting. This allows a designer to examine the tradeoffs between manufacturing costs and structural performance, and will reduce design process iterations.



Modeling and Simulation Capabilities at Oshkosh Corporation

Ilhan Bayraktar, PhD, PE
Sr. Principal Engineer,
Advanced Products Group

Oshkosh Corporation uses several Modeling and Simulation (M&S) tools during the vehicle design process. CFD for cooling system design, FEA for structural integrity, Vehicle Dynamics for mobility performance and System Level Modeling for packaging and design optimization are some of the areas that M&S is highly utilized. The presentation will introduce some of these M&S tools and applications. High Performance Computing System that enables Oshkosh engineers to conduct such high-fidelity simulation activities will also be discussed.



Autonomous Convoys: Opportunities in Technology

Jacob Fischer,
Principal Engineer,
Corporate Electronics Group



In the past decade, one of the greatest initiatives of automotive systems has become achievable unmanned ground vehicles. There are obvious liability, public perception and infrastructure issues to overcome, but before those even become a major hurdle, technology, software and system designs will have to make giant strides. Sensors, computers, safety systems and software that were used only five years ago are all but obsolete now. The disparity between old and new technology only highlights how much further the industry needs to travel to become mature. Oshkosh Corporation has developed four generations of autonomous systems over the past eight years and is currently focused on applications in military autonomous convoys with the U.S. Marine Corps. This presentation will underline the opportunities and accomplishments with Oshkosh's technology and software choices, what they know works and what they believe needs to fill the gap to make autonomous convoys a reality.

--- REGISTRATION ---

NO ONLINE or AT-THE-DOOR registration allowed. Interested parties must register by phone as follows. Last names beginning with:

A – I contact Josh Rayeske at 414-587-8855
J – S contact Wayne Richter at 262-377-8145
T – Z contact Tony Grant at 414-755-2164

Registration Deadline: Monday, May 16th, 5:00PM
Maximum Attendance for the tour is 120

All participants must provide current place of employment upon registration and a valid government issued ID such as a passport or driver's license upon arrival at Oshkosh Corporation facilities.

--- EVENT AGENDA ---

Registration: 5:00 – 5:30 pm (Global Technology Center)
Facility tour: 5:45 – 7:00 pm (South Plant & E-Coat Facility)
Dinner & presentation: 7:30 - 8:30 pm (LaSure's Banquet Hall)

--- DINNER ---

SAE Member/Spouses	\$15
Retirees	\$15
Guests/Non-members	\$20
SAE Students	\$5

Reminders:

- No online registration or at-the-door registration allowed.
- The tour is restricted due to government and competitive limitations.
- All participants must provide current place of employment upon registration
- All participants must present a valid government issue ID such as a passport or driver's license upon arrival at Oshkosh Corporation facilities.
- The plant tour will be available only to U.S. citizens and lawful permanent residents.
- The tour will be wheelchair-friendly. Please indicate if you will require additional accommodations during registration.
- There will be a limit to the number of tour participants so plan to respond early.
- No cameras or cell phones will be allowed.

Carpooling: Contact Dale Wiza (dale@engineeringplacements.com) for carpool coordination.
Dale will provide options at Milwaukee area Park n' Rides.

Directions to Oshkosh Corporation

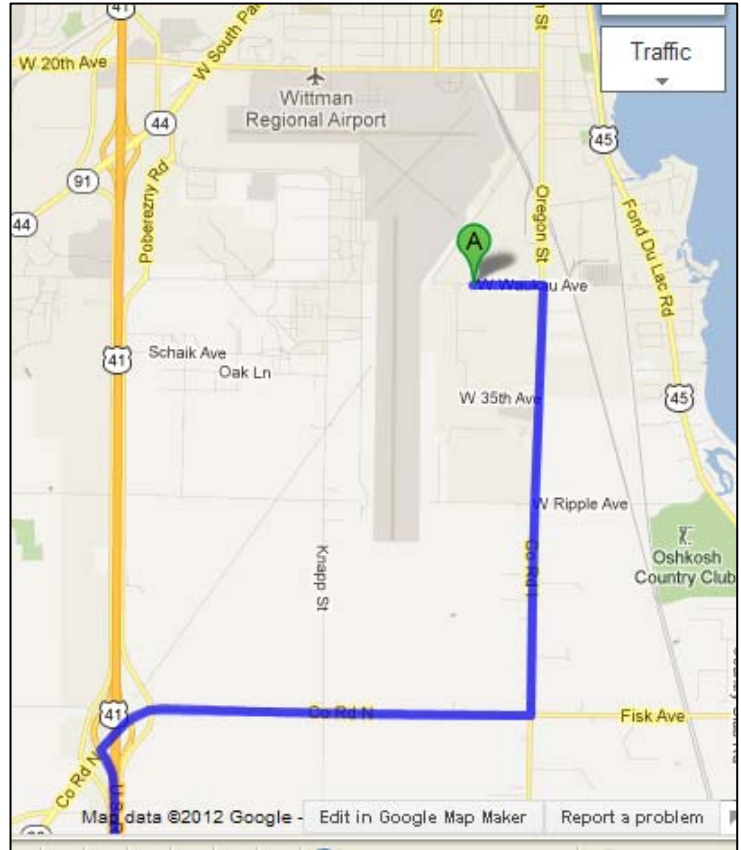
370 W Waukau Ave., Oshkosh, WI 54902

From South (Milwaukee)

Take US-41 North
Take exit #113 for WI-26/Country Rd N
toward Waupun
Turn right onto Co Rd N
Turn left onto Co Rd I/Oregon St
Turn left onto W Waukau Ave

From West (Madison)

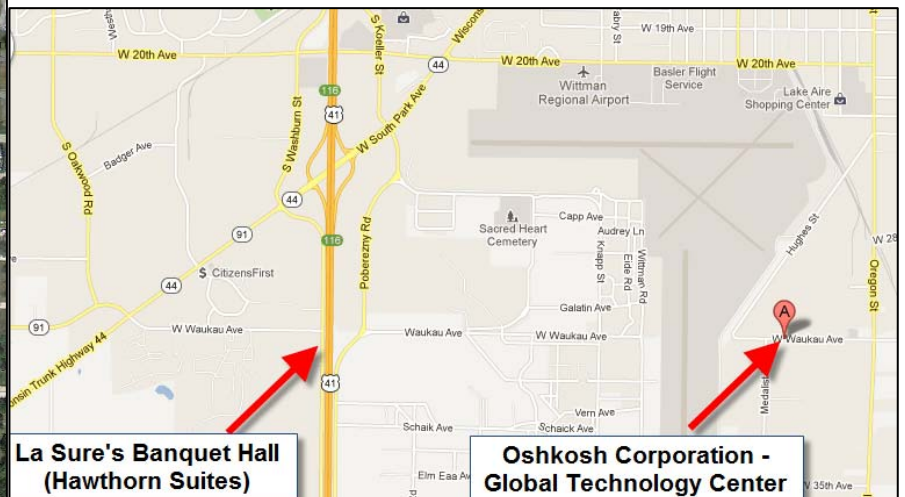
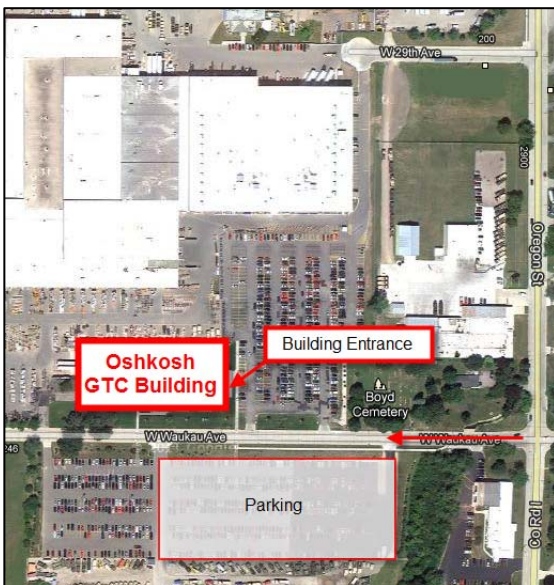
Take 151 N
Take exit #148 for Wisconsin 26 N toward
Rosendale/Oshkosh
Merge onto WI-26 N
Continue onto Co Rd N
Turn left onto Co Rd I/Oregon St
Turn left onto W Waukau Ave



La Sure's Banquet Hall (Hawthorn Suites)

3125 South Washburn Street, Oshkosh, WI 54902

- Head east out of parking lot onto W. Waukau Ave, left onto Oregon St, left onto 20th Ave, left onto Hwy 44 (South Park), left onto S. Washburn



BAJA SAE – June 7-10th, Burlington WI

Baja SAE consists of three regional competitions that simulate real-world engineering design projects and their related challenges. Engineering students are tasked to design and build an off-road vehicle that will survive the severe punishment of rough terrain and sometimes even water.



The object of the competition is to provide SAE student members with a challenging project that involves the planning and manufacturing tasks found when introducing a new product to the consumer industrial market. Teams compete against one another to have their design accepted for manufacture by a fictitious firm. Students must function as a team to not only design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project and manage their educational priorities.

All vehicles are powered by a ten-horsepower Intek Model 20 engine donated by Briggs & Stratton Corporation. For over twenty-five years, the generosity of Briggs & Stratton has enabled SAE to provide each team with a dependable engine free of charge. Use of the same engine by all the teams creates a more challenging engineering design test.

Over 115 teams from around the world are registered for the event, including 1,200 students. It will be the largest Baja event in the United States. Visit www.baja.wisc.edu for event details.

Volunteers are needed for June 8, 9, & 10. Contact Glenn Bower (grbower@wisc.edu) if you'd like to participate. Glenn is also seeking event sponsorship, please contact him if your company can provide support.

BAJA SAE Wisconsin Career Fair – “Your Inside Lane!”

Join us on Saturday at Baja for insider recruitment information for your professional growth by Dale Wiza, SAE Career Development Chair.

While much will be geared toward students, we'll share for professionals too!

Dinner 5:30-6:15

“Inside Track” presentation 6:15-6:30

June Sprints – June 14-17th, Elkhardt Lake WI

Join your SAE Milwaukee, Chicago, Rockford-Beloit, Michigan, Indiana and Western Michigan Sections at this great race event. Help celebrate the Chicago Region's 63rd anniversary. Come enjoy this outstanding racing experience. We are so privileged to have this fine 4.5 mile race course conveniently available to us. The June Sprints® races involve a multitude of car styles and classes; open wheel, stock car, historic and modified custom. Over 30 classes of cars will compete, separated into groups for the purpose of, qualifying and road racing. Qualifying occurs each morning with racing in the afternoon.

Through a special arrangement with our friends at Road America, we can offer these normally **\$35.00/day tickets for just \$5.00** for our SAE members. Invite a non-member guest along for just \$10.00 per day. You can order as many tickets as you wish.

How to order Tickets – Order your tickets on-line through the SAE web site at www.milwaukeesae.com. Deadline is Thursday, June 7th. Tickets will be available at Gate 3 “Will-Call” on the day of the event. If you have any questions call Doug Kautzer (414-788-7443).

SAE Hospitality Tent Saturday – Stop by for a cool bottle of water or soda at our hospitality tent. Watch for the familiar blue and white “SAE” banners. We will be located at turn 3 of the race course. Our hospitality tent will be within sight of the Corvette Coral, a popular site at the corner of turn 3. Doug Kautzer will staff the tent from 10 AM to 2 PM.



Reliability Engineering Special Interest Group

The Milwaukee Section is forming a reliability engineering group. The mission is “Bringing together Reliability Practitioners to identify areas of need and share best practices in the field of Reliability Engineering”.

The inaugural meeting will be held at the Brady Corp. Camden Drive Facility on May 3rd, 5:30 PM. Jim Holleren will be presenting Harley-Davidson’s Design Failure Mode Effects Analysis (DFMEA) process. Mr. Hollern is the Evaluation & Customer Correlation Engineer for the Company.

Please call Dave Boyles (414-358-6639) to sign up for this event or for more information. Stay tuned for future event opportunities. Check our website (www.milwaukeesae.com) for more details.

Milwaukee Section 2011-2012 Governing Board

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Dear Members and Section Friends,

The April 19th Allis-Chalmers meeting was well attended at Briggs & Stratton by more than 60 members. We enjoyed listening to Larry Gruenberger describe the methods and challenges of tractor development in the late 1970's. The presentation was displayed from an old-style carousel slide projector, but the stories remained thrilling. It's truly remarkable to see how product development has advanced over the last few decades! Many thanks to Clinkenbeard for presenting their rapid product development capabilities at the meeting. We are grateful for the continued financial sponsorship they provide to the Milwaukee Section.

Our family day event will be June 16th, at the June Sprints hosted at Road America. SAE will have a hospitality tent with soda and water available to all members attending. Purchase your tickets online today.

In closing the year, I'd like to reflect on the past nine months of activity. My primary goal this past year was to increase meeting attendance. Our methods to achieve this were improved timeliness for newsletter distribution, higher interest topics, and more affordable meal prices. I'm proud to say that our meeting attendance was at record high levels throughout the year! Thank you for engaging with our section and participating at the events. I'm confident that our momentum will result in another fantastic year beginning in September. I hope to see you at our final Section meeting at Oshkosh Corporation. I wish you a wonderful summer!

Best regards,

Jim Ryan
Chairman – Milwaukee Section

Section Sponsors



SEE SPEED THE WAY WE DO.

We look at speed as much more than a popular buzz word. To Clinkenbeard it means that under the surface, there is a highly-skilled group of engineers and a whole bunch of highly-technical machinery and processes that work together to achieve real speed-to-market. Contact Clinkenbeard today and learn how our patented Clinkenbeard Process® can take your concepts to working prototypes faster than you ever thought possible.

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