

Upcoming Events

Matt Kenseth Museum

- January 17

Milsco

- February 11

Clean Snow Challenge

- March 2-7

Case New Holland

- March 11

Ford Mustang and F-150

- April

December Update Clean Snowmobile Challenge

Informational Update



Houghton, MI

March 2-7, 2015

Clean Snowmobile Challenge 2015

March 2-7, 2015

The SAE International Clean Snowmobile Challenge (CSC) is an engineering design competition for college and university student members that challenge engineering students to reengineer an existing snowmobile to reduce emissions and noise. Their modified snowmobiles will compete in a variety of events including emissions, noise, fuel economy/endurance, acceleration, handling, static display, cold start and design.

The CSC Rules Committee makes changes to the competition each year to keep the competition fresh and to present new engineering challenges. CSC is primarily an "engine" competition however the underlying theme has remained consistent to engineer a clean and quiet trail sled. Current trail sleds are engineered to these standards, but it is possible to achieve more. Noise levels can be reduced and cleaner fuels can lead to lower emissions.

Competition Objective for IC Engines

The intent of the competition is to develop a snowmobile that is acceptable for use in environmentally sensitive areas such as our National Parks or other pristine areas. The modified snowmobiles are expected to be quiet, and emit significantly less unburned hydrocarbons and carbon monoxide than current production snowmobiles, without significantly increasing oxides of nitrogen emissions. The modified snowmobiles are also expected to be cost-effective and comfortable for the operator to drive. The intent of the competition is to design a touring snowmobile that will primarily be ridden on groomed snowmobile trails. The use of unreliable, expensive solutions is strongly discouraged! Modern snowmobiles are engineered to meet the current standards for noise and emissions. Teams are expected to add innovative solutions for improving on the performance of the base sled that they start with. Design judges (written and oral) will be looking for innovations and incorporating that into their scores.

The minimum performance expectations for a trail IC snowmobile are set by these rules as a sled that by design will go 100 miles without refueling and can attain a trail speed of 45 miles per hour on a smooth trail. Additionally they should be able to traverse 500 feet in 12 seconds or less. Designs that do not have a reasonable expectation of achieving these requirements will be allowed to compete only on an "Exhibition" basis.

Competition Objective for Zero Emissions Category

The Greenland Ice Cap acts like a sponge, absorbing atmospheric chemicals produced naturally, or via anthropogenic activities. Many of these chemicals are also photoactive

in the lower troposphere and even in the upper layers of the snow. Research underway at Summit Station seeks to understand the processes involved, and how it might play into the global cycling of these agents. Some of the chemical constituents under study are measured in parts per billion. Emissions resulting from the burning of fossil fuels on site can hopelessly skew the research results. Due to the sensitive nature of much of the research being conducted at Summit Station, NSF seeks to find a "zero-emissions" vehicle for transporting researchers and support staff to and from research sites.

Electric snowmobiles or other forms of zero-emissions transportation have long been sought. Range and performance have always been extremely limiting factors that have precluded the successful development of commercially available models. Recent advancements in battery and motor technology have finally made it possible to realize vehicles with ranges adequate for some purposes. Zero-emissions personal transportation would allow the operation of more distant satellite camp facilities, and allow access to areas previously accessible only by foot. In short, this is a tool that the research community needs now.

Snowmobiles in this category must be zero-emissions by default. Therefore, no test or points will be given for emissions. Instead, range and draw bar performance will be measured. Innovation will also be judged in this category.

How to Get Involved

The Milwaukee Section of SAE is responsible for helping run the event, including judging reports written by the collegiate teams entering the competition. Your SAE Milwaukee Section needs you to help judge reports. To volunteer to judge papers, please contact Jay Meldrum (jmeldrum@mtu.edu). Judges typically read a minimum of four reports in the category they are most comfortable with (IC engines or electric). There are also volunteer opportunities during the competition. More information on volunteer opportunities at competition will be provided in upcoming newsletters. A schedule of events is included in this newsletter for those who are interested in helping at competition.

To learn more about the event or how you can get involved, please contact Dale Wiza (dale@engineeringplacements.com, 414-807-9663).

Corporate sponsorship opportunities are also available in various levels. If you or your company are interested in more information, please contact Brian Hannon (bghannon@mtu.edu, 906-487-3572).

Schedule of Events



Date/Time	Schedule	Meeting Place
Monday, March 2		
8:00 am to 7:00 pm	Teams Arrive, Registration opens Turn in Snowmobile Description Form IC and ZE Final Technical Inspections	KRC/T3 KRC/T3
5:30pm to 6:00 pm	Fire Safety Presentation	KRC/T3
6:00 pm to 8:00 pm	“Early Volunteers” Reception	<i>Joey’s Seafood, Houghton</i>
Shop open until Midnight	<i>Pizza for students in the shop</i>	
Tuesday, March 3		
7:30 am	Judges Meeting	KRC/T3
	Gage Products IC Fueling	
10:00 am	*Grand Opening Event* NSF Electric Sled Range Test	KRC/T3 KRC/T3
	Endurance Run to Copper Harbor	KRC/T3
3:00 pm – 5:00 pm	<i>Late Lunch and discussion about Future CSC competitions</i>	<i>Shelden Grill</i>
Return to KRC – Shop open 5pm until Midnight		
Wednesday, March 4		
7:30 am	Presentation Judges Meeting	KRC Bldg 69
8:00 am to 5:00 pm	IC Design Presentations	KRC Bldg 69
8:00 am to 5:00 pm	AVL Lab Emissions Event	T5
	Sensors Inc. In-Service Emissions	T5
10:00 am to 11:00 am	Technical Presentation/Chalk Talk TBD	KRC/T3
8:00 am to 5:00 pm	Make-Up Endurance Miles	KRC/T3
Noon	<i>Cincinnati Chili Courtesy of The PCB Group</i>	KRC/T3
Student Registration ends at Noon		
1:00 pm to 3:00 pm	CH2M Hill Polar Services Electric Sled Draw Bar Pull	KRC/T3
4:00 pm to 6:00pm	Networking with Industry	Copper Country Mall
6:00 pm to 8pm	*Snowmobile Public Display* <i>Light refreshments will be served Courtesy of the Michigan Tech Graduate School</i>	Copper Country Mall
Shop open until Midnight		KRC/T3



Thursday, March 5

8:00 am to Noon	PCB and HEAD acoustics Noise Event	KRC T3
8:30 am to 5:00 pm	Polaris Subjective Handling Event	KRC/T3
8:30 am to 5:00 pm	Emissions Events (continued)	KRC/T5
10:00 am to 11:00am	Technical Presentation/Chalk Talk	
	EMITEC– “Catalyst Technology”	KRC/T3
Noon	<i>Pasty Lunch</i>	KRC/T3
1:00 to 4:00pm	ZE Design Presentations	ATDC
5:00 pm to 7:30 pm	SAE Milwaukee Section Meeting	
	Presentation by Barry MacLean, President and CEO of MacLean-Fogg	
Announcements for Special Awards Finalists Mandatory Attendance		DOW 641
	<i>Dinner provided for registered students and Volunteers</i>	

Shop open until Midnight

Friday, March 6

7:30 am	Judges Meeting	KRC/T3
9:00 am to 5:00 pm	Emissions Events (continued)	KRC/T5
10:00 am to 11:00am	Technical Presentation	
	Sound Quality	
	HEAD acoustics, Inc.	KRC/T3
Noon	<i>Beef Bar-B-Que</i>	KRC/T3
	<i>courtesy of the Iowa Snowmobile Association</i>	
1:00 pm to 6:00 pm	Open time to enjoy the Keweenaw Mt. Ripley Ski Hill, Dollar Bay Motorsports Dan’s Polaris, Houghton Powersports, M&M Powersports	
5:00pm to 6:00pm	VIP Tours of MEEM Building MEEM	
6:00pm to 8:00pm	VIP/Volunteer Reception	<i>Habeneros, Hancock</i>
Shop open until Midnight	Sleds Outside by Midnight	<i>Students dinner on your own</i>

Saturday, March 7

8:00 am to 8:30 am	NGK/NTK Cold Start Event	Outside KRC/T3
8:30 am to 10:00 am	Emission Testing (if necessary)	KRC/T5
10:00 am	*Polaris Acceleration event*	KRC Test Course
11:00 am	*Polaris Objective Handling event*	KRC Test Course
	ZE Acceleration + Load Test	KRC Test Course
Noon	Judges Meeting to Review Scoring and Penalties	KRC T1
6:30 pm	*Awards Banquet*	<i>MUB Ballroom</i>
	<i>Banquet Meals for the students courtesy of the PCB Group</i>	

Public Viewing Opportunities

January SAE Section Member Event

Saturday, January 17, 2015

Matt Kenseth Racing Museum

700 Kenseth Way
Cambridge, WI 53523



Cure for Winter's Cabin Fever - Come join fellow SAE Milwaukee section friends and race enthusiasts for a tour of the Matt Kenseth Racing Museum on Saturday, January 17, 2015 1 – 4PM. Matt drives the number 20 Toyota Camry for Joe Gibbs Racing. SAE board members will be on hand to welcome you. See Matt's race cars, race memorabilia, trophies, driver apparel and racing history of his very successful career. Spend some of that Christmas money in the fan club store for Matt Kenseth or NASCAR items. Invite other family members, friends and neighbors for the visit. Plan to spend 45 minutes or so.

One of the Museum Reviews: “The staff is knowledgeable and friendly. The assortment of cars is fantastic: from one of Matt's first race cars, to his 2004 IROC Championship car, to the car he wrecked at Talladega in 2009, to his personal Mustang Cobra. Even a couple of his Harley's are on display.”

Lunch is on your own with many restaurants in charming Cambridge or the nearby Lake Ripley area. The museum is easy to find and watch for the familiar blue and white SAE banners to guide you in. There is no charge for the event and we'll ask you to sign in for our records please.

Student Night Recap

The Annual SAE Milwaukee Student Night was held this past Nov. 6th hosted by the UW-Milwaukee SAE Section. SAE Student Chapter advisors Dan Beller, Professor John Reisel, staff Wendy Pero and Jennifer Schansberg, Dustin Flunker, and the Chapter students were outstanding and gracious hosts. The evening kicked off with the students' showcasing their collegiate design vehicles and tours of the University's impressive engineering facilities. Michigan Tech University, UW-Milwaukee, MSOE, Marquette University, and UW-Madison were the Milwaukee Section schools with vehicles on display. This event allowed the students the opportunity to network with each other and with the section's professional members, which is encouraged at SAE Milwaukee Section events.



During the great dinner, John Reisel welcomed the attendees, the SAE Milwaukee Section board members in attendance introduced themselves attendees, and the Student Activities Committee presented a short PowerPoint focusing on the mission and benefits of SAE as it relates to students.



Finally the reason this meeting is held, the SAE Student Sections took the stage to present to the professional members an overview of their Sections. Representatives from each university spoke about their respective collegiate section covering topics such as chapter activities and meeting topics, results of past design competitions, community outreach, leadership development, and lessons learned over the past year. The professional members in attendance served as guest judges. By the night's conclusion, MSOE SAE Student Chapter was awarded top honors.

Results of this competition with grant totals are as follows:

1st Place: MSOE \$1,388.48

2nd Place: UW-Madison \$1,310.84

3rd Place: Michigan Tech University \$1,467.70

4th Place: Marquette University \$1,001.84

5th Place: UW-Milwaukee \$831.14

All of these amounts include a travel allowance from each school to the host school.

*Northern Michigan University did not present this year

The Students Sections are able to apply these grants to improve their Student Sections or vehicle projects as they see fit. Remember that these grants are available through your generosity at and participation in SAE Milwaukee Section meetings and events throughout the year. Please make it a point to reach out to any of the students from these schools and congratulate them on their hard work!



Special Invitation for SAE Milwaukee Members – Construction Leadership Council of Greater Milwaukee Welcomes Joe Takash to their 2015 Annual Kick-Off

January 29th at the [Wisconsin Club Grand Ballroom, 900 W. Wisconsin Ave., Milwaukee, WI](#)

Cocktail reception begins at 5:30pm, dinner at 6:00pm, and presentation after dinner.

RSVP by Friday, January 23rd by fax at (414) 778-4119, or by email at beigenfeld@agc-gm.org. Admission for professional SAE Milwaukee members is \$30, student members is \$10, and free to student members who are interested in only the presentation (must arrive after 7:00 PM). Payment is made at the event.



Joe Takash is the founder and principal of Victory Consulting. Since 1998, he has helped construction companies win more than **abillion dollars** of new business. He advises CEOs, facilitates executive meetings and develops emerging leaders. Joe's keynote programs blend strategic insight with liberal doses of humor. As a sought- after media resource, Joe has been interviewed on national outlets such as ABC News, Fox Business News, MSNBC, Investor's Business Daily, Entrepreneur Magazine, Career Builder, CBS Radio, USA Today and BusinessWeek. When Joe isn't speaking, he is often seen cruising the open roads of suburbia in his wife's powder blue mini-van. Learn more about Joe at www.VictoryConsulting.com

Joe is excited to be a part of the CLC of Greater Milwaukee's Education Program, presenting the timely topic: Building Profitable Partnerships in Construction. In this high-energy, interactive and entertaining keynote presentation, Joe will share proven strategies for building partnerships that accelerate trust, quality, and profits. But first, he will start by uncovering the dangerous blind spots that most construction executives never hear about and then discuss a formula that streamlines efficiency for project teams, leaders, and organizations.

SAE Milwaukee Section Board Member Spotlight

Mitch Crawford – Treasurer



Mitch's love for the automotive market started when he was very young. He grew up playing with Matchbox cars, reading Motor Trend, Car & Driver, and Road & Track, playing Gran Turismo and other video games.

He attended the University of Wisconsin – Milwaukee, graduating with a Bachelor of Science Degree in Mechanical Engineering. During his time at UWM, Mitch became heavily involved in the University, including the student chapter of SAE. He joined UWM's Baja SAE team at the beginning of freshman year, and was elected president by his peers during his sophomore year. During this time, he increased funding for the Baja program, increased visibility of the organization at the UWM College of Engineering and Applied Sciences (CEAS), as well as the University as a whole.

Mitch also has worked to improve the engineering program at UWM. During his junior year, he joined the Advisory Committee on Differential Tuition for CEAS, where he and 2 other students reviewed faculty proposals and directed the funding of over \$500,000 in projects related to laboratory improvements.

Mitch became involved with the SAE board as UWM's student representative in 2010, and was elected to the treasurer position in 2012. During his time as treasurer, he has slowly moved SAE's finances to a more digital platform through the use of DropBox and online banking services. His goal is to go completely digital with all treasury documents by 2015.

In addition to involvement with SAE, Mitch enjoys running, biking, keeping up to date with the automotive world, and traveling.

Milwaukee Section 2014-2015 Governing Board

CHAIRMAN:

Garrett Herning—Power Test Dynamometers
garretth@pwrst.com

VICE CHAIRMAN: OPEN**SECRETARY:**

Drew Caron—Rexnord
andrew.caron@rexnord.com

TREASURER:

Mitch Crawford—Modine Manufacturing Co.
m.s.crawford@na.modine.com

PAST CHAIRMAN:

James Ryan—Caterpillar
jim.ryan@cat.com

HISTORIAN:

Wayne Richter
richterway@sbcglobal.net

AWIM/EDUCATION:

Sid Jain - Modine Manufacturing Co.
S.Jain@na.modine.com

WEBMASTER:

Cara Kazda—Kuss Filtration
cara.kazda@kussfiltration.com

MEMBERSHIP VICE CHAIR:

Dale Wiza—Professional Engineering Placements
dale@engineeringplacements.com

COMPANY AMBASSADORS:

Tony Grant – New Berlin Plastics
tony.grant@earthlink.net

COLLEGIATE RELATIONS:

Mike Krauski—UW-Milwaukee
krauski@uwm.edu

STUDENT ACTIVITIES:

Randy Hoffman—WCTC
rhoffman2@wctc.edu

CAREER DEVELOPMENT:

Dale Wiza—Professional Engineering Placements
dale@engineeringplacements.com

SENIOR ADVISOR:

Kurt Person—HB Performance Systems

SOCIAL MEDIA MANAGER:

Drew Boyer—Modine Manufacturing Co.
a.m.boyer@na.modine.com

NEWSLETTER EDITOR:

Mike Fricke—HUSCO Automotive
michael.fricke@huscoauto.com

STUDENT PROFESSIONAL TRANSITION MANAGER:

Nerissa Hanson—Mercury Marine
nerissa.hanson@mercmarine.com

MINI BAJA CHAIRMAN:

Matt Anderson—Briggs & Stratton
anderson.matthew@basco.com

STUDENT REPRESENTATIVES:

Marquette: Jace Birschbach—jace.birschbach@marquette.edu

MSOE: Karl Hundt—hundtk@msoe.edu

UW-Milwaukee: Nate Sievers—nsievers@uwm.edu

Michigan Tech: TBD

UW-Madison: TBD

Northern Michigan University: TBD

A Letter from the Chairman

Greetings SAE Milwaukee Section Members and Friends,

As 2014 winds down, I'd like to thank all of you who attended events this fall. We had a great start to our 2014/2015 year with top notch events at Harley-Davidson and Manitowoc Cranes. Both of these companies sponsored their event which was key for the Student Section Awards given out at the annual Student Night in November.

We had record attendance from the student sections at Student Night. Five out of the six schools in our area were in attendance showing off their project vehicles and competing in the annual oral presentation contest. If you have never been to a Student Night, please consider coming next year. Not only is this a chance to see the innovation and hard work the students are doing to their project vehicles, but this is a great networking opportunity with potential co-op and graduating students on job opportunities your company may have available.

We start off 2015 with a strong lineup of events in January. Cure the winter blue's with other SAE members and take a ride over to the Matt Kenseth museum in January. After that be sure to join us for events at Milsco, Case New Holland, and the Clean Snow Challenge.

Lastly, on behalf of the entire SAE Milwaukee Section Governing Board, I would like to wish everyone a safe and Happy Holiday Season. We look forward to seeing you in 2015!

Garrett Herning

SAE Milwaukee Section – Chairman

NEW!!



SAE Board Member Shadow Program

Members, your board of directors has created a new way for you to get involved in the activities of the SAE Milwaukee Chapter!

Do you like the service and support that your SAE Milwaukee Chapter provides to you? Do you have some fresh ideas to make your section better? **Or.....would you like to just get involved?**

If you would like to participate but do not know how to get started, we have the program for you. This new program allows you to shadow a board member to learn the details of what they do for this section. With this opportunity you can investigate/help a position that interests you without jumping in with both feet. This will allow you to participate to the level you are comfortable with or find the position that suits your talents and/or interests.

We would like to invite you to Shadow a Board Member.

If you are interested in this opportunity please contact Randy Hoffman at (920) 397-6644.



SAE Milwaukee STEM/AWIM program

Your Milwaukee Chapter needs your help with expanding the AWIM program within the local schools. AWIM (A World In Motion) is a teacher-administered, volunteer-assisted program that brings Science, Technology, Engineering and Math (STEM) education to life for K-12 grade students. Program focuses on various age-appropriate challenges that are taught through the use of “kits” – students build different models using these kits while learning about basic principles of physics, motion and flight.

We have paired up with Messmer Prep and St. Rose/St. Leo schools in Milwaukee and will be introducing the AWIM program there



- Both schools are part of the Messmer Catholic Schools and serve the inner city students through a Voucher/Choice program
- This is **first time** a program of this kind is being introduced at Messmer – the program was **specifically requested by teachers** there to inspire girl students and encourage them to pursue STEM subjects later in their educational career
- AWIM program to be introduced for 4th and 5th grade students at both schools, with a focus on all 3 elementary and one middle school challenge
- **We want YOUR help** in assisting students in Fall and Spring sessions in after-school program setting (~ 3:30 – 5:00 pm)
- **For more information on volunteering, please contact Sid Jain, S.Jain@na.modine.com**

Section Sponsors



CATERPILLAR®



Manitowoc



TREK



**MOTOR
HARLEY-DAVIDSON
COMPANY**



MERCURY



HAYES™



ROAD AMERICA®



MacLean-Fogg
COMPONENT SOLUTIONS



**Johnson
Controls**



OSHKOSH®



BRIGGS & STRATTON®



UWM
UNIVERSITY of WISCONSIN
MILWAUKEE

Newsletter communications brought to you by...

Ken Cook Co.

Innovation in Technical Communication

Ken Cook Co.'s mission is to support client customers by developing and distributing client product operating, service and parts information worldwide. Ken Cook is known worldwide for the production of quality technical support documentation in electronic and printed formats and in most languages. Web design, ISP hosting, e-learning, e-business and internet communications are available to our customers.