

NOVEMBER TOUR & DINNER

Thursday, 13-Nov-2003

MODINE
through the years



PROGRAM:

Modine Manufacturing Co.

- Tour the **TECHNICAL CENTER** at the **MODINE** facility in Racine!
- View one of the worlds most sophisticated climatic **WIND TUNNELS**
- Enjoy a wonderful dinner at **MODINE**
- Presentation Topics:
 - #1 – *An Overview of Fuel Cells and Related Activities at Modine*
 - #2 – *An Introduction to Automotive (CO₂) AC & HP Systems*

Modine Manufacturing Co.
1500 Dekoven Ave.
Racine, WI 53403
phone: 262-636-1200

--- EVENT AGENDA ---

Registration:	5:00pm
Tour:	5:15pm
Dinner:	6:00pm
Presentations:	7:00pm

--- DINNER ---

MENU:

Modine Manufacturing Company has graciously extended themselves, on our behalf, and will have an outstanding dinner, on-site. Attendees will be provided with fresh "in season" vegetables w/buttermilk ranch dip, taco trays, assorted domestic cheeses & sausages, cold hand-made canapés, medallion sandwiches & cold ham, turkey silver dollar sandwiches, plus tropical fruit kabobs. Hot entrees will include onion toasted meatballs, honey BBQ smoked wieners, crab stuffed mushroom caps, bacon-wrapped water chestnuts, chicken satay, assorted dessert bars - carmel apple, oreo bash, dream lemon, berry jazz, and beverages.

COST:

SAE Members / spouses:	\$10.00
Retirees:	\$10.00
Guests / Non-members:	\$15.00
Students w/ID:	\$5.00

Registration:

Tour reservations must be requested **one week before** the event. Please include your employer or student affiliation.

Registration deadline is **NOON on Thursday, November 6th.**

Charge card payment of dinner fees can only be done over the web, at <http://milwaukee.sae.org> . Register via email at: milw-sae@wi.rr.com , or telephone: 414-465-6722.

"No-shows" with reservations will be billed.

50-Year members entitled to 1 free dinner annually.

Company:

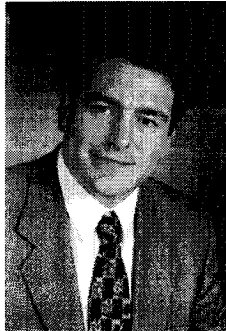
Modine Manufacturing Company specializes in thermal management, bringing heating and cooling technology to diversified markets. Modine's products are used in light, medium, and heavy-duty vehicles, HVAC equipment, industrial equipment, refrigeration systems, fuel cells and electronics. The company owns the rights to more than 1,400 worldwide patents, and continues to revolutionize the industry with leading-edge technology.

Presentations / Speakers:

>> An Overview of Fuel Cells and Related Activities at Modine <<

Mark Voss is Engineering Manager, Fuel Cell Products Group, responsible for the development of heat transfer products for both fuel reforming and fuel cell balance of plant applications. He received his BS in Aeronautical Engineering and has 25 years of engineering experience in the fields of engine and thermal systems development for defense and commercial applications. He has worked for the Lycoming Gas Turbine Engine Division, Williams International, McDonnell Douglas Energy Systems and the Nartron Corporation. Mark's achievements include 28 patents in the fields of turbomachinery, climate control, electronics cooling and heat transfer, and he has been a member of SAE for 12 years. He will give an overview of fuel cell technology development for transportation and stationary applications, reviewing steps Modine is taking to develop products for this new and emerging technology.

>> Introduction to Automotive (CO₂) AC & HP Systems <<



Dr. Stephen Memory is Mgr of Heat Transfer Research. Receiving his BSc in 1983, MSc in 1986, and PHD in 1989, all from University of London, his achievements include a PE registration (Florida 1996), over 40 publications in the heat transfer literature, and 2 US patents. He is currently Vice-Chair of TC 8.4, ASHRAE. He will discuss impending legislation in Europe to start phasing out the current automotive air-conditioning refrigerant (R-134a) in 2009. Research viewing CO₂ as an environmentally friendly alternative refrigerant, to replace R-134a, has shown CO₂ to be highly efficient, exhibit extremely quick 'pull-down' and provide heating as well as cooling (in the form of a heat pump (HP)). This is seen as an important future need as efficient small displacement diesel engines enter the market place. The cycle is essentially the same as current vapor compression systems, except that the high side of the system operates above the critical point of the fluid, making it a transcritical system. It also operates at significantly higher (5x) pressures, providing some interesting challenges for design engineers. His talk provides an introduction to this 'new' refrigerant, explains the major differences between CO₂ and current systems (both AC and HP) and presents results from 6 years of research at Modine on CO₂ components and systems.

January 15 Meeting tour: Delta Hawk Aircraft Engines, Racine

February 18 Meeting tour: Johnson Controls "42Volt Systems", Milw

March Meeting (tentative): NAFTA and the U.S. Today, Mequon

April Meeting (tentative): Engine Performance Issues, tbd

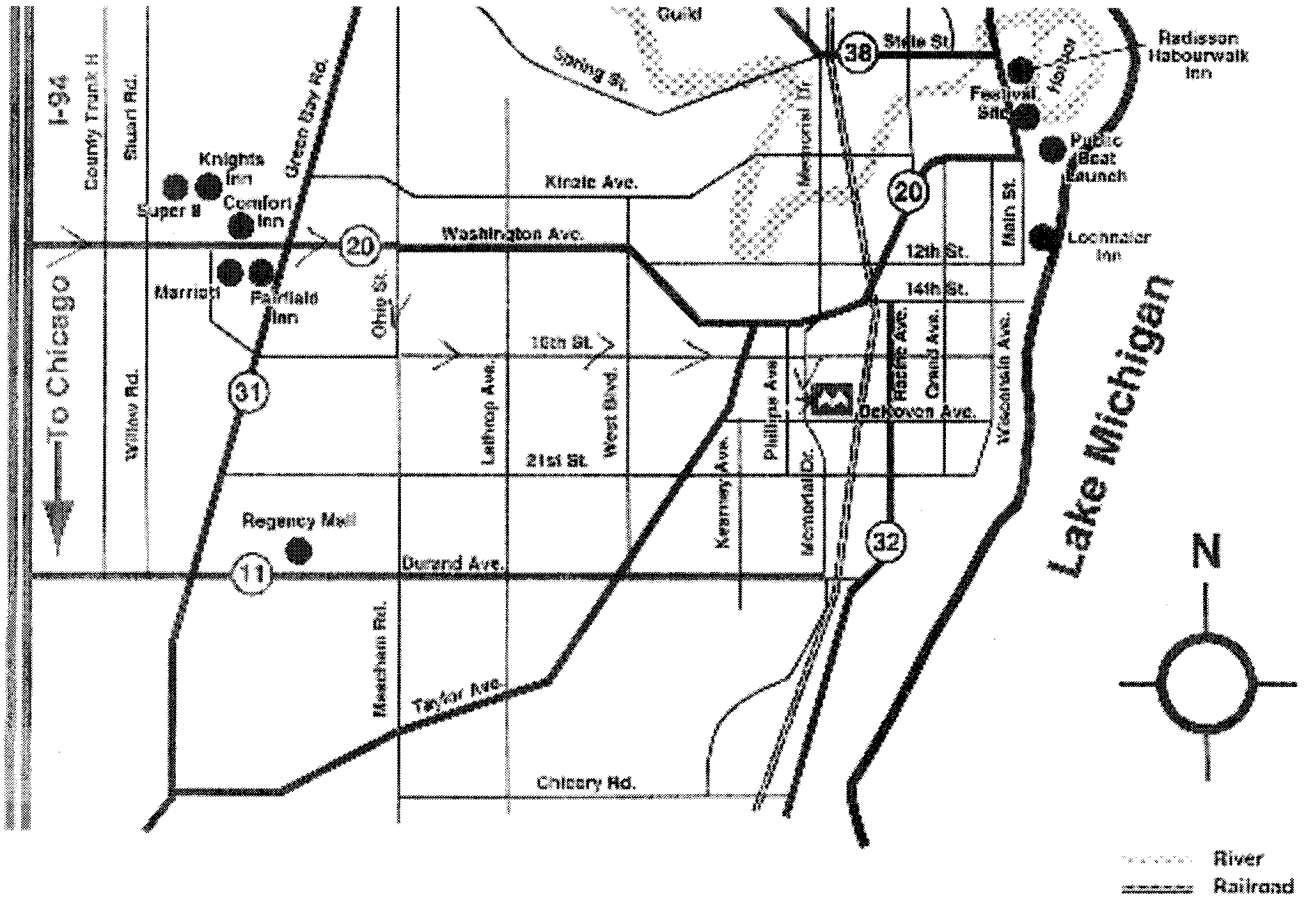
May Meeting (tentative): A World in Motion - Discovery World, Milw

*Upcoming
Events*

EMAIL NEWSLETTER DISTRIBUTION IS HERE!

November is the first month of email distribution for the SAE Milwaukee Section newsletter. This distribution represents a huge cost savings for your section. You will no longer receive hardcopy newsletters as of this date. Requests to reinstate monthly hardcopy newsletter mailings may be placed by phone. Please leave a complete message (name, phone number, address) and leave your message on the regular registration line, 414-465-6722. Call in your request anytime after NOV 6th. Messages will be removed once daily.

Map:



MODINE Manufacturing Company
1500 Dekoven Ave.
Racine, WI 53403
phone: 262-636-1200

Milwaukee Section 2002-2003 Governing Board

CHAIRMAN:

1 Dale Wiza
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Work: (414) 427-8080

- Chairman's Note -

Engaging Our Students. This was our unofficial theme. I felt engaged, and very impressed with all of the students and their projects. From the showing of 34 students, and another 50 members, I'm confident that the students were engaged, too. Thanks to everyone for supporting the fine event at Carsports America. A special thanks to our Vice Chair of Student Affairs, Prof. John Lumkes, for a fine job of coordination.

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Alt SECTION DELEGATE:

(open)

Our event started at Carsports, where a pair of 600-hp Viper racers, and a nice presentation by the Carsport team awaited us. They informed us of what they invest in the cars, both time and money, and the teamwork required, all to sustain the sport of racing. Also represented there, were the UW-Madison FutureTruck and FutureCar, and their teams, which caught most of the attention of the Journal Sentinel reporter (see 10/9/03 Business page, or jsonline.com). Both of these vehicles have won national titles. My former Franklin High shop teacher, Gary Press, and John Jewell, also brought 5 students along with their FHS funny car, receiving some good advice, too. Both John and Gary decided to join SAE, as well as Pat Murray, who called me after the news article.

Then on to the hotel, where UWM showed and provided a presented on their entry into Mini-Baja. MSOE brought their champion Aero project, with entertaining flight footage, and their Formula SAE car. The sharing of ideas, advice, and stories continued throughout the evening.

Your SAE Milwaukee Section proudly contributes to these student teams. To find out how you or your company could sponsor or help, please contact Prof. Lumkes.

I am proud of another Franklin alum contact, Lyman Tschanz with Modine Manufacturing Company, who is generously hosting our next tour. This is a most impressive facility, where you'll gain insight into state-of-the-art technology. Please help our hosts by registering early. Make use of our telephone registration system.

I would also like to thank those who list their email addresses for our electronically distributed newsletter. This allows us to offer you, our membership, more value by making available funds otherwise used on postage. So please, check the web or list your email address with SAE National soon!

Sincerely,

Dale Wiza, SAE Milwaukee Section Chairman

12. *Sharon Ray*

13. *Rich Silvert*

From our Vice-Chair Membership, Joe Sagat:

Fellow SAE Friends,

My name is Joe Sagat and I'm Vice Chairman responsible for PR & Membership for our Milwaukee section. My note today is regarding SAE membership and a precious commodity - time. If you are receiving this newsletter, it's because you're supporting SAE through your dues. Our Milwaukee Chapter thanks you and the companies you work for.

Now to that precious commodity called time. I truly understand the feeling that there is little time left in the day for ourselves. The demands placed on us at our jobs are immense. The days are filled with job wants and needs of all types that never end and our desks never get cleaned off. We're living in a climate that asks for it now and if we don't answer our competitor does. When the end of the day comes around I'm headed home to see my family and relax. If a telemarketer calls, look out! Why would I want to spend time at another meeting? What's the value?

Last month we featured our student sections. What a great feeling to see our young professionals stand up in front of their peers and show all of us the pride that they have in their projects, their work. It reminded me immediately of why I got into engineering. I wanted to solve problems and become the "come to guy". I thought, "I'm not going to deal with any of those political issues." Well more than once, I got a few gray hairs and a reality check. Politics do creep into all of our jobs, over time. I had forgotten the reasons I went into the engineering field. Listening to our students was an uplifting experience that propelled me into the next long day of work. I guarantee you that if you open your mind, you will see the benefit in getting closer to SAE and the reason you became an engineer.

Please make it your goal to attend one more meeting per year than you did last year and invite a friend from your company to come along. Guests are welcome. Talk with people that share experiences in some of the same hobbies and life interests you have. Everyone can use another friend!

Joe

Meeting Sponsorship

We wish to thank the following organization for their continued support of the Milwaukee Section:

Harley-Davidson Motor Company

For more information on becoming a sponsor, please contact any section board member.

For the latest information visit the SAE web sites:
<http://milwaukee.sae.org> for the Milwaukee Section or,
<http://www.sae.org> for S.A.E. National.