



Milwaukee Section News

February 2007

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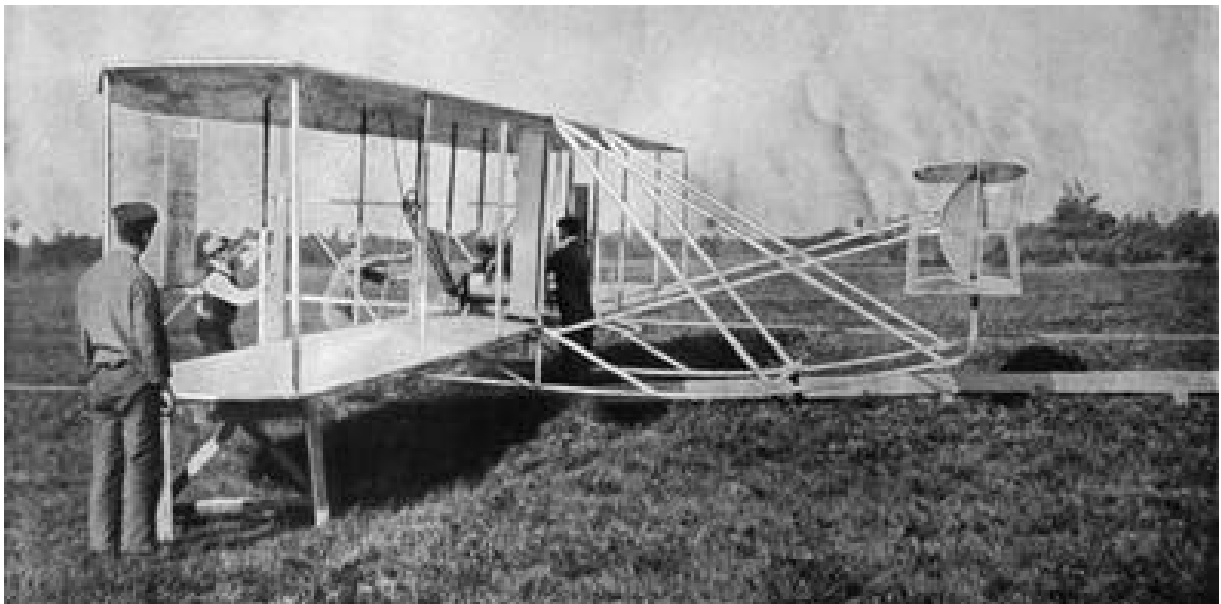
chairman: Joe Sagat j.g.sagat@na.modine.com

For updates, news, letters and comments please visit the Homepage: <http://www.saemilwaukee.org>

"Secrets of the Wright Brothers" **Presentation**

Wednesday, February 28th

special SAE guest speaker: Dr. Robert Ash



Location:

**Klemmers Banquet Center
10401 W Oklahoma Ave
Milwaukee, Wisconsin 53227
(414) 541-0401**

Next month:

**STUDENT NIGHT,
at Marquette U, Milwaukee
- and -
Clean Snowmobile Challenge 2007,
Houghton, MI**



TONIGHT's PRESENTATION:

We are honored to welcome Dr. Robert Ash to Milwaukee for this very special event. He is presently on staff and involved with research at Old Dominion University, in Norfolk, VA. His talk tonight will discuss the pioneering accomplishments of Wilbur and Orville Wright in designing the world's first powered and controlled flying machine. The Wright Brothers' design of an efficient airplane propeller has been largely overlooked. Dr. Ash will discuss how The Wright Experience has carefully recreated the original propeller designs and how the wind tunnel testing program at Old Dominion has documented some extraordinary achievements of Wilbur and Orville Wright, and their design and construction of aircraft and propellers.



Abstract Detail:

One hundred years ago, Wilbur and Orville Wright became convinced that they had the knowledge and where-with-all needed to build and fly the world's first powered and controlled flying machine. Their three glider campaigns in Kitty Hawk, NC, combined with their theoretical studies and wind tunnel testing in Dayton, OH, left them with a reasonably efficient aerodynamic and structural configuration incorporating an effective three-dimensional control system. In addition, they had acquired considerable skill as pilots, and gained the confidence needed to embolden them to attempt their ultimate goal. The only remaining important challenges were to obtain an engine with good power-to-weight ratio and to find propellers that were efficient in converting shaft power to thrust. Neither of their remaining problems was as simple to overcome as they had assumed.

By early 1903, they had built and tested their own four-cylinder (4 1/8 in. bore and 4 in. stroke-check) engine and found that it produced almost 16 horsepower immediately after a cold start, decreasing to a near steady-state output of 12 horsepower. They assumed that the mystery of propeller design had been solved by the shipbuilding industry, since screw propellers had been used on steam-powered ships for more than 50 years. It was soon discovered that a technological breakthrough in propeller design was required to achieve powered flight with their existing airplane structures and power plant.



Speaker Biography:

Education: Ph.D. (Mechanical Engineering), Tulane Univ., 1968; M.S. Tulane Univ., 1966; B.S.M.E., Kansas State, 1963.

Research Areas: Space Systems, Thermal Physics, Fluid Mechanics and Heat Transfer.

Professional Experience: Prof. of Aerospace Engineering, Old Dominion University, 1994-Present; Assistant Prof., 1967-1970, Associate Prof., 1970-1976, Prof., 1976-Present, Eminent Prof./Eminent Scholar 1987-Present. Interim Associate Vice President for Research and Graduate Studies Old Dominion University, 2001-Present.

Associate Vice President for Research, Economic Development and Graduate Studies, Old Dominion University, 1995-1999.

Visiting Distinguished Research Engineer, NASA Langley Research Center, 1992-1993.

Chairman, Mechanical Engineering and Mechanics Department, Old Dominion University, 1984-1993.

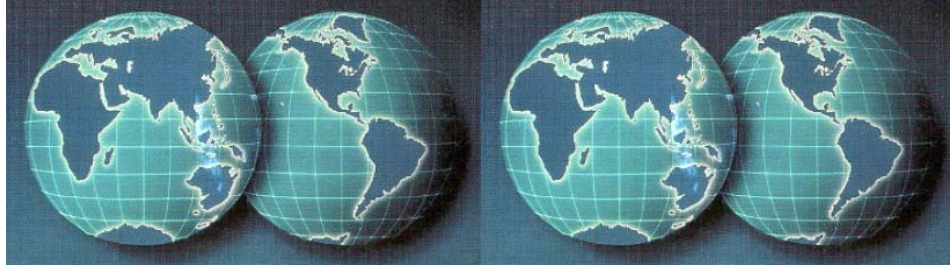
Acting Dean of Engineering, Old Dominion University, 1983-1984.

National Research Council, Sr. Resident Research Assoc., Jet Propulsion Laboratory, California Institute of Tech., 1977-1979.

Dr. Ash has received numerous awards and honors, and has many works in publication.

Professional Societies and Activities: National Research Council, Space Studies Board, Committee on Microgravity Research, 1996-1999; AIAA, Associate Fellow, Atmospheric Environment Technical Committee 1995-Present, Thermophysics Technical Committee, 1995-1998; ASME, Faculty Advisor, Old Dominion University Student Chapter, 1980-1981; Member, American Society for Engineering Education, Society of Automotive Engineers, and National Society of Professional Engineers; Co-authored original proposal and member of the Virginia Space Grant Consortium Advisory Committee 1989-Present, (Chaired Advisory Board 1992-1996); Board of Advisors, NASA Center for the Utilization of Local Planetary Resources, University of Arizona, 1988-1994 (Chaired Advisory Board 1993-1994); Registered Professional, Commonwealth of Virginia, since 1976; Principal Investigator on Research Grants totaling more than \$3-million.

Old Dominion UNIVERSITY
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--- EVENT AGENDA ---

Registration / Social:	5:00 p.m.
Dinner:	5:45 p.m.
Open Meeting:	6:45 p.m.
Presentation:	7:00 p.m.
Q&A / Adjourn:	8:00-8:15 p.m.

Dinner will be family style and provided by Klemmers, including: Beef Stroganoff, Baked Ham, crisp garden salad with dressings, potato du jour, vegetable du jour, ice cream, rolls and butter, and coffee, tea, or milk.

--- DINNER ---

MENU: buffet style, 3 main entrées

DINNER PRICES:

SAE Members / spouses:	\$20.00
Retirees:	\$15.00
Guests / Non-members:	\$25.00
Students w/ID	\$10.00

Registration:

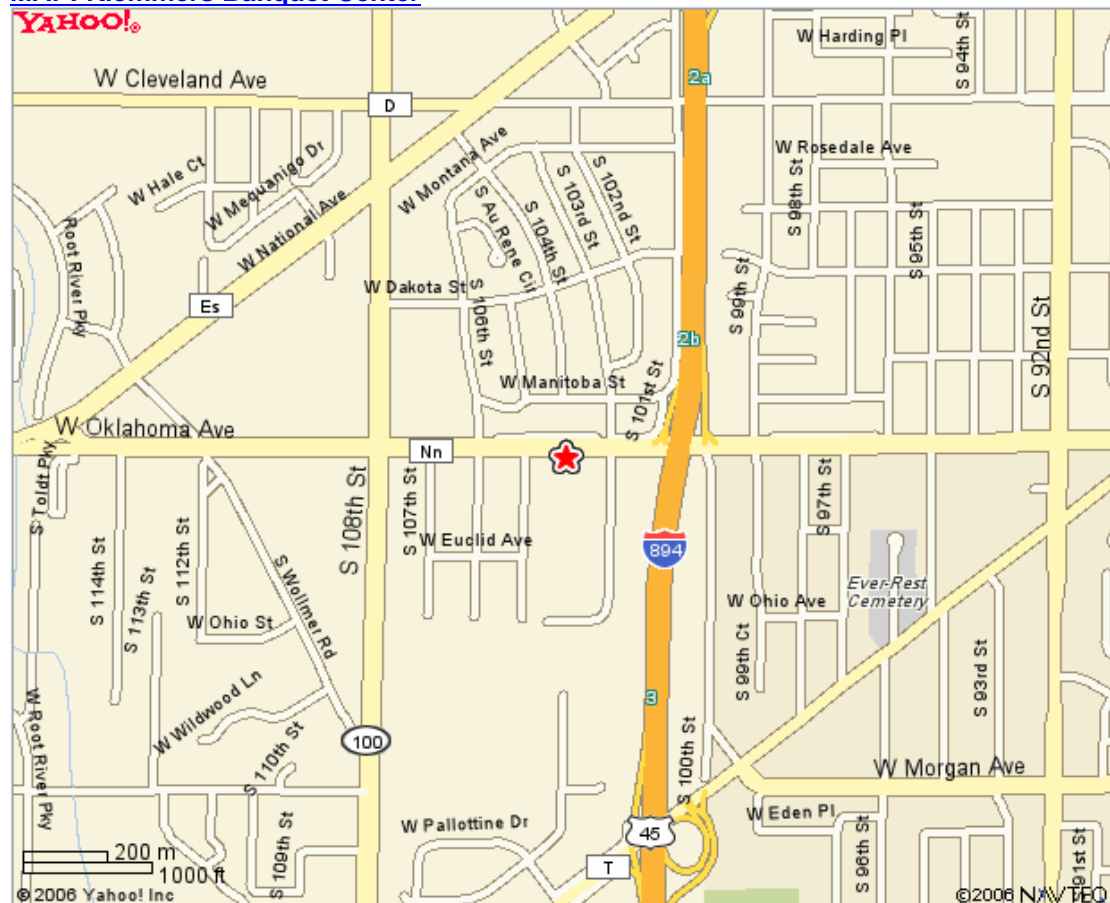
Please make dinner reservations with a **charge card** online at <http://milwaukee.sae.org>.

Pay-at-the-door registration for those without web access is available by phone using the SAE Information Line (414-687-3032). "No-shows" with reservations will be billed.

Registration deadline: 11pm – February 25, 2007

Please note: 50-Year Members are entitled to 1 annual free dinner... call SAE Milwaukee at (414) 687-3032

MAP: Klemmers Banquet Center



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- Chairman's Note -

Friends,

As our days get longer, I hope we're almost through our recent cold spell. But the cold weather didn't keep our section activities frozen. We held the last in a three part series of lectures on "Emissions, the Engineering Challenge" at Modine Manufacturing on February 8th. We began our lecture series at Discovery World where Dr. Damm discussed a "Well to Wheel" perspective addressing alternative technologies to reduce emissions. Last week we visited Cummins Filtration and discussed how to reduce the impacts on intake and exhaust emission's noise with their products. At Modine, we discussed an engine mounted technology called Exhaust Gas Recirculation Cooling - "EGRC" which aids in reducing tailpipe emissions. I'd like to thank our hosts for these events. In addition to hosting the first series event, Discovery World was kind enough to donate their theater and the equipment necessary to webcast Dr. Damm's presentation. This was a 2007 goal for our Section and a first for Milwaukee!

Please visit the link below to view the full lecture. If we receive enough positive feedback, we would like to plan on holding more of these events:

[Dr. Christopher Damm at Discovery World - SAE Milwaukee Webcast](#)

At February's Member Meeting we will unravel some of the "Secrets of the Wright Brother's". SAE Milwaukee will be hosting Dr. Robert Ash on Wednesday, February 28th in West Allis, WI, just off of I-894 and Oklahoma Ave.

Then in March, the monthly Member Meeting will be "Student Night" at Marquette University. Tuesday, March 27th will bring together MSOE, Marquette, UWM, Madison and Michigan Tech students who will be displaying and discussing their SAE collegiate projects.

Rich Teerlink, past CEO from Harley-Davidson Motor Co. will be our guest and keynote speaker. Rich will share his insights on the business world perspective with attendees.

And in March, members of our section will be supporting a great competition, the Clean Snowmobile Challenge in Houghton, MI. This annual SAE collegiate event is hosted by Michigan Tech. Student teams will apply their engineering skills to build sleds that reduce noise and emissions while improving rider comfort. We will hold a meeting for our Michigan UP members and students at the event on Friday, March 23rd on the Michigan Tech campus. Gates Rubber will provide the technical presentation and incoming SAE National President, Rich Schaum, will discuss his goals for this upcoming year as well as answer the student's questions regarding the challenges they face in their careers.

Please continue to use our Section's Website at www.saemilwaukee.org. If you would like to post an announcement on our section's website, please contact me. And, if you would like to find out more about having your company sponsor an advertisement on our website, please call me. This site is our number one communications link to our members. Please visit it often.

Finally, please make sure that your SAE membership information is up to date with SAE National and include your email address. Most of our correspondence is via email and I am interested that we do the best job we can to reach all of our members.

Joe Sagat
Milwaukee Section Chairman

Meeting Sponsorship

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

Waukesha Engine Graphics Systems Corporation

For more information on becoming a sponsor, please contact the Milwaukee Chairman, Joe Sagat via email: j.g.sagat@n.a.modine.com or over the phone (262) 636-1362.

To make reservations for this or any Milwaukee Section Event:

Charge your reservation over the web: <http://milwaukee.sae.org>

CALL and pay-at-the-door: (414) 687-3032

Milwaukee Section info: <http://saemilwaukee.org>



For more information on AWIM, call: 724-772-8514, and ask for Darlene Geweth
email: awim@sae.org internet: www.sae.org/foundation/awim

To be added or removed from the SAE email list, please send an email to mailto:mark.de@email.sae.org with "ADD TO SAE" or "REMOVE FROM SAE" as the subject line