



IEEE

MADISON SECTION NEWSLETTER

VOLUME 10, NUMBER 1

SERVING IEEE MEMBERS OF SOUTH CENTRAL WISCONSIN

JANUARY 2007

High-Resistance Grounding and Ground Fault Protection

Date/Time: Thursday, January 18, 2007, 11:45 AM - 1:00 PM
Speaker: Tony Locker, P.E., I-Gard
Location: Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444
Menu: Pizza buffet, salad and soft drinks (cost \$10.00, free for student members)
RSVP: by January 15th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664



Non-member guests are always welcome!

As Power Reliability and Arc Flash Hazards become more prevalent in the next decade and beyond, High Resistance Grounding (HRG) systems have become the grounding system of choice by many professionals. Once only used in Industrial applications, HRG systems have flourished in other markets, such as commercial and institutional. However, they are not perfect systems. This presentation will discuss why HRG systems were first developed and how modern relays are helping an almost 50 year old practice solve today's challenges.

Tony Locker received a BSEE from Rose-Hulman Institute of Technology and a MSEE from Georgia Institute of Technology. He is presently Director, Business Development with I-Gard, Cincinnati, Ohio, where he is responsible for providing technical seminars and application assistance on resistance grounding and ground fault protection in the USA. Prior to joining I-Gard in 2005, he was Vice President - Engineering with Post Glover Resistors. Previously, he was Director of Engineering at Power Engineering Technology. His background includes leading design teams and managing installations of numerous multi-million dollar control and power systems for data centers, industrial plants, cogeneration facilities, and utilities. Before Power Engineering Technology, he was a R&D engineer for Square D Company.

Mr. Locker is active in the Industry Applications and Power Engineering Societies of IEEE, where he serves on several Subcommittees and Working Groups, as well as NSPE. He is a registered Professional Engineer in Ohio and has two patents.

More info on Resistance Grounding can be found at: <<http://www.i-gard.com/technologyinfo.htm>>.

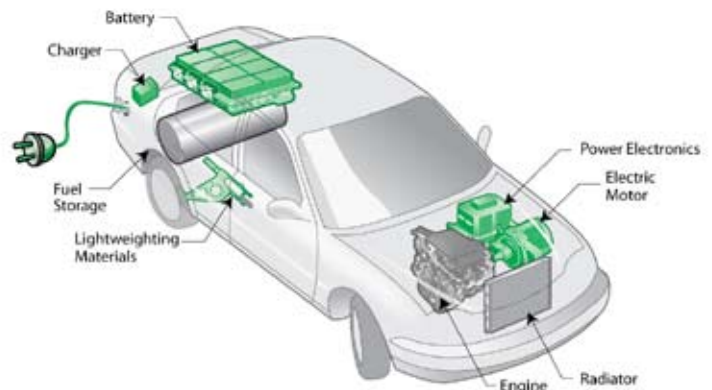
State of the Art in Plug-in Hybrid Electric Vehicle Electric Machines, Batteries and Power Electronics

Date/Time: Friday, February 16, 2007, 11:45 AM - 1:00 PM (NOTE: this is the third FRIDAY of the month, not Thursday)
Speaker: Theodore P. Bohn, Researcher, Argonne National Laboratory's Center for Transportation Research
Location: Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444
Menu: Pizza buffet, salad and soft drinks (cost \$10.00, free for student members)
RSVP: by February 13th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

Non-member guests are always welcome!

Ted, a UW-Madison alumnus, will speak on the state of the art on Plug-in for HEVs, as well as how PHEVs can be an effective solution to shift our transportation energy mix. An abstract and speaker bio will follow soon.

For some more information on Argonne National Lab's activity's related to this talk, please point your browser at: <http://www.anl.gov/Media_Center/News/2006/ES061201.html>http://www.anl.gov/Media_Center/News/2006/ES061201.html>.





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- **Introduction to Planning and Designing Fiber to the Premises**
March 13–14, 2007 in Las Vegas, NV
- **Modern Wireless Data Communications**
March 20–22, 2007 in Madison, WI
- **Safety Code Compliance for Outside Plant Communications Facilities**
March 27–29, 2007 in Madison, WI

For further information...

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IEEE MADISON SECTION NEWSLETTER

Published 9 times per year (Jan. - May & Sep. - Dec.) by the Madison, Wisconsin Section of the Institute of Electrical and Electronic Engineers (IEEE), as a service to its members in south-central Wisconsin.

Printing and mailing by: SprintPrint
2790 S. Fish Hatchery Rd.
Madison, WI 53711

Mailed at Madison, Wisconsin as 3rd Class, Non-Profit postage. Permit No. 953.

Online at <http://www.bugsoft.com/ieee/>

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Message from the Chair: EMAIL IS COMING!

I hope that all had wonderful holidays, and that you all will have a prosperous and productive 2007. The new year brings some upcoming changes to the IEEE Madison Section, in the area of communications and education. I look forward to these changes as positive steps to make this section better for its membership.

We have been exploring, and are now ready to implement, a process to distribute the monthly newsletter via email. This process should improve our ability to communicate effectively with members, and at the same time save on costs. Starting with this issue we will be sending the newsletter out via email, as a PDF attachment. For the first two months of this transition, we will still send the print newsletter via bulk mail, in addition to the email. By March, we expect to eliminate the print mail to those who have an email address registered with the IEEE national organization, and have indicated their willingness to receive email. A recent search of the IEEE database for members within the Madison Section shows that we have 747 members of which approximately 650 have registered an email address with the IEEE, and have elected to be included in email communications. We will continue to send print mail to those to whom we cannot send email. We expect to save about \$3,000 per year in costs, and believe that we will minimize the "late newsletters" that, in the past, sometimes arrived after that month's meeting had taken place (ugh!).

Another change that I want to highlight, is our effort to reach out to local math and science education. We are just starting a process of identifying areas where the Madison Section members can assist local primary and/or secondary schools. Our vice-chair, Ken Hartman, is heading up the effort to create a plan of outreach. Any ideas that you can offer would be most appreciated! Ken can be reached at: khartman@visonex.com.

Again, best wishes for a wonderful new year. Please feel free to contact me at any time with questions or suggestions. Volunteering to be a part of the IEEE Leadership is highly encouraged!

Mitch Bradt, P.E.

IEEE Madison Section Chair

mbradt@ieee.org

The Hundredth Anniversary of the Birth of Grace Hopper

By Frederik Nebeker

One of the most important figures in 20th-century computing is Grace Hopper. Born Grace Murray in New York City on 9 December 1906, she graduated from Vassar in 1928, having majored in both math and physics. Two years later, she earned an M.A. in mathematics at Yale and married Vincent Hopper. In 1931, she began teaching at Vassar, while still working on her Ph.D., which she received in 1934. In 1943, she left her position as associate professor at Vassar to join the Women Accepted for Voluntary Emergency Service (WAVES), the women's auxiliary service of the U.S. Navy. She was assigned to the Bureau of Ships Computation Project at Harvard, where she worked with the Mark I, an electromechanical digital computer, and became one of the first computer programmers in the world.

After the war, she stayed on as a research fellow at the Harvard Computation Laboratory. In 1949, she went to work for the Eck-

ert-Mauchly Corporation, and in 1952, she became Director of Automatic Programming for the UNIVAC Division of Sperry Rand (which had acquired the Eckert-Mauchly company). Hopper was one of the originators of high-level programming languages, completing one of the first compilers in 1952. Five years later, she completed a compiler for FLOW-MATIC — the first compiler for an English-language business data-processing language. FLOW-MATIC had a large influence on COBOL, which became the most widely used programming language for business applications. Hopper was one of the early members of the Association of Computing Machinery (ACM). In 1957, she edited the ACM Glossary of Computing Terms — the first authoritative dictionary of computing.

Hopper had remained a member of the Navy Reserve, and in 1967, the Navy recalled her to active duty. There she worked on various computer-applications, and led the effort to standardize programming languages for the military. She eventually attained the rank of real admiral — the first woman to do so. When she retired in 1989, at the age of 79, she was the oldest serving officer in all the armed forces. In 1962, Hopper was named an IEEE Fellow “for contributions in the field of automatic programming.” In 1991, President George Bush presented her with the National Medal of Technology “for her pioneering accomplishments in the development of computer programming languages that simplified computer technology and opened the door to a significantly larger universe of users.” She received some 40 honorary doctorates, and a U.S. warship was named in her honor. She continued to work as consultant until her death on New Year’s Day in 1992.

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concepts they have just learned.

To register call Carol at 847-537-6400 or email her at cgorowski@dlsemc.com. For more information visit www.dlsemc.com/class301.htm.



(If you cannot attend this class, the next one will be October 2007)



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IEEE Madison Section Election Results

The annual officer elections for the IEEE Madison Section were held at the December 21st, 2006 monthly meeting. The slate of candidates was elected unanimously. Congratulations to the new officers for 2007:

Chair: Mitchell Bradt
 Vice-Chair: Ken Hartman
 Secretary: Les Schroeder
 Treasurer: John Hicks
 Mem. at Large: Clark Johnson



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For more information, contact John Hicks at (608) 233-4875 or jhicks@wisc.edu.

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