

◦ Upcoming Events

▪ March LMAG Meeting “Charter Street Power Plant Tour”



- Thursday, March 3rd, 5:00-6:30 PM
- Tour of the Facility
- Details: 1.5 Hour Walking Tour with Stairs
- Fee: Free
- Location: UW-Madison Charter Street Power Plant

117 Charter Street
Madison, WI

- LIMITED AVAILABILITY: Please Register at the IEEE-Madison [event page](#).

Tour: Bring head phones if you have them. UW will provide a wireless receiver and a single earbud for anyone who doesn't bring their own.

Parking: The map provided by the link in the “Where” box above shows UW parking Lots 33 and 45. After 4:30 PM, both of these lots are free so attendees can park in either lot depending on availability.

4:55 PM: Gather at the entrance indicated on the linked map and wait to be admitted. If the weather is bad, we will be admitted a little earlier. The entrance is adjacent to the plant's parking lot on Mills Street just south of Dayton Street. Anyone arriving after this door is locked will need to walk around the plant to the pedestrian gate on Charter Street and buzz the control room for entrance into the plant.

5:00 - 6:30 Tour: The tour will last approximately an hour and a half depending on questions and inclusion of a tour of the roof. (See below)

Tour Stops: (order subject to change)

- Control room
- 225,000 Lb/Hr natural gas boilers
- Natural gas meter pit
- New utility tunnel and steam exit locations
- Water treatment plant
- Steam turbine generator
- Campus cooling chillers and pumping systems
- Fuel oil tank (back-up fuel to natural gas)
- Optional roof tour - If weather permits, those who wish to climb the additional stairs to the roof can see the boiler stacks, and the cooling towers for the boiler feedwater, and the chiller.

▪ March Section Meeting “Beethoven, Shannon and the Compact Disk”



- Date: TBD March 16/17 — Check the Registration Page
- Lecturer: Dr. Greg Carman, Magnetism Society Distinguished Lecturer
- Location and Time: TBD — Check the Registration Page
- Details: Lecture and Pizza, Cookies and Beverage
- Suggested Donation: \$5 IEEE Members, Free for IEEE Student Members, \$10 Others
- Please Register at the IEEE Madison Section [event page](#)

Talk:

An audio compact disc (CD) holds up to 74 minutes, 33 seconds of sound, just enough for a complete mono recording of Ludwig von Beethoven's Ninth Symphony ('Alle Menschen werden Brüder') at probably the slowest pace it has ever been played, during the Bayreuther Festspiele in 1951 and conducted by Wilhelm Furtwängler. Each second of music requires about 1.5 million bits, which are represented as tiny pits and lands ranging from 0.9 to 3.3 micrometers in length. More than 19 billion channel bits are recorded as a spiral track of alternating pits and lands over a distance of 5.38 kilometers (3.34 miles), which are scanned at walking speed, 4.27 km per hour.

Bio:

Greg Carman received the Ph.D. degree from Virginia Polytechnic Institute and State University in 1991. He joined the Mechanical and Aerospace Engineering Department at the University of California, Los Angeles, in 1991. He is the director of a new National Science Foundation Engineering Research Center entitled Translational Applications of Nanoscale Multiferric Materials (TANMS) and is engineering director of the Center for Advanced Surgical and Interventional Technology in the Department of Surgery at UCLA. He is an associate editor for the Journal of Intelligent Material Systems Structures and for Smart Materials and Structures. He received the Northrop Grumman Young Faculty Award in 1995 and three best paper awards from the American Society of Mechanical Engineers (ASME) in 1996, 2001, and 2007. He was elected Fellow of the ASME in 2003 and was awarded the ASME Adaptive Structures and Material Systems Prize honoring his contributions to smart materials and structures in 2004. In 2015 SPIE honored him with the Smart Structures and Materials (SSM) Lifetime Achievement Award. Presently his research interests focus on analytical modeling, fabrication, and testing of multiferric (magneto-electric) materials and developing devices for medical applications.

▪ April Section Meeting “The Adult Role Models in Science (ARMS) program”

- Date: April 12, 2016, 11:4 AM - 1:15 PM
- Lecturer: Dolly Ledin, Outreach Coordinator for UW-WISCINECE
- Location: Madison Sequoya Library Branch
Large Room on the Right
4340 Tokay Blvd

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Madison, Wisconsin
United States 53711

- Details: Lecture and Pizza, Cookies and Beverage
- Suggested Donation: \$5 IEEE Members, Free for IEEE Student Members, \$10 Others
- Please Register at the IEEE Madison Section [event page](#)

Talk:

The Adult Role Models in Science (ARMS) program is founded on the basic idea that the best way to transform science education for children is to help adults—from teachers to undergraduates to researchers to parents—become and see themselves as competent scientific role models. Each trained role model can mentor many children, and that’s how ARMS is able to reach hundreds of kids each year.

Bio:

Dolly Ledin works to engage scientists in collaborating with educators to engage youth in the process of science. She has worked as outreach coordinator for the University of Wisconsin WISCIENCE for the past 25 years. She has worked as an elementary and middle school teacher, an environmental educator with the Wis. Dept. of Natural Resources and an adjunct faculty with Univ. of Wisconsin Stevens Point. Most of Dolly’s work has focused on the Madison community, building long-term partnerships between the university, local K-12 schools and organizations that serve youth. She has also led environmental science courses for teachers in Puerto Rico, led university students on a study-abroad course in rural Ecuador and spent a year as the environmental education coordinator at the Cloud Forest School in Monteverde, Costa Rica. She has an MS in Land Resources from UW Madison Institute for Environmental Studies (now the Nelson Inst.) She received the Sister Joel Read Civic Leadership Award from the Wisconsin Campus Compact in 2015.

◦ **Section News**

▪ **Review of February Events**

February ECN Meeting: “The Challenges of Operational Scaling” (Review by Charles Gervasi) At our Feb 4th meeting of the Entrepreneurs and Consultants Network, Kevin Kaufman spoke to us about the challenges of scaling up a business (his presentation slides are available at this [link](#)). Kaufman says it’s important to put structures in place early, before the business is ready to scale up. It’s easier to set out to have a positive company culture than to fix it if an unhealthy one grows over time. Being clear about Vision, Mission, and Core Values is important to keep everyone together. It gives you the clarity to say no to ideas that would distract you from your core business. Kaufman emphasizes the dangers of becoming distracted from the business’s mission.

It’s common for business owners to keep 85% of their net worth in their business. According to Kaufman, 70% of business owners are not prepared to sell even if they think they are. As baby boomers retire, there may be more people selling businesses, causing lower valuations. Kaufman separates “value drivers” of a business into market factors and operational factors. Market factors are related to the business’s primary activities. Operational factors are things like HR, accounting, and all the things needed to keep the business operating. It’s important for the person running a business to be at least somewhat involved in managing operational factors.

Kaufman says he often gets three objects as reasons why this does not apply to a particular business. We’re unique. - It feels like this, but Kaufman says it’s not true. Your business has commonalities with other businesses. Founders need to interact with other business founders. The issues they face are not unique. We’re too busy - This is a time when businesses need to focus on scaling up. Small businesses usually either feel too busy or that they do not have enough business. Both are reasons for founders to put off business planning.

Church meetings often start with a prayer. Kaufman says the prayer makes it less likely the meeting will turn sour. He once worked at a business that began meetings by stating their six principles before every meeting, as a similar reminder to remember the broader mission of the organization.

February Section Meeting: “Your First IoT Project” - Presentation by Dominic DiMarco of MobileIgniter.

The presentation was aimed at those people who are considering adding “Internet of Things” to an existing product mix. Though there were technical details in the presentation, Dominic was really explaining the big picture of what is required to launch an IoT product. His talk included the sections: “What is the Internet of Things IoT?”, “How this is applicable to Reinventing Business”, “Some real world use cases”, and “What it takes to bring an IoT product to market”. You may view a copy of the presentation slides at this

[link](#)

, or you can review the entire presentation, audio and slides, recorded with Camtasia Studio by clicking on this link:

[IoT- Dominic DiMarco’s Presentation to IEEE-Madison](#)



Sensor/Switch

Data Connection



IoT
Simplest Form



Dominic DiMarco, Co-Founder of MobileIgniter’s Presentation of “Your First IoT Project”

▪ Upcoming Meetings

March Section Meeting: Dr. Greg Carman's talk is still being scheduled. He is a Distinguished Lecturer with the IEEE Magnetics Society and will be coordinating his travels with other Sections/Chapters. His talk titled "Beethoven, Shannon and the Compact Disk" on the history of development of the Compact Disk should be entertaining and informative. Please check the Section Meeting list on vtools for the final data/time/location.

April Section Meeting: Dolly Ledin has spent many years helping to educate children. Her current role as Outreach Coordinator for the ARMS program at UW-Madison. The Adult Role Models in Science (ARMS) program is founded on the basic idea that the best way to transform science education for children is to help adults. What's a scientific role model? It isn't just someone who can present scientific information to children in an interesting way. It's someone who's there with them over time to cultivate their curiosity and excitement about science, help them think like scientists, and nurture both their desire to learn more and their belief that they can. It's also someone who's a role model to other adults, taking leadership in science education and outreach. Can IEEE members participate as role models?

▪ Volunteers Needed

Micro Volunteers: Do you have some time to spare to help IEEE-Madison Section? Perhaps you have a meeting topic that you would like to see us host and could find a speaker. Maybe you have time to call a few members who might have forgotten to renew their membership.

Please consider sending some time helping with the Section activities. Let me know (tjkaminski (at) ieee.org).

◦ Regular Meetings

▪ Section Meetings

The third Thursday of January through May, and September through December is reserved for a meeting to provide recent research, developments, trends and/or innovations in one of our membership's technical areas.

▪ Life Member Affinity Group

The first Thursday of January, March, May, September and November is reserved for a meeting on a topic selected from a broad range including such areas as technology, science, history, culture and leisure.

▪ IEEE-MSN-ECN Networking Meetings

- Purpose: Presentations, Discussions, networking
- Date: First Thursday of even-numbered months
- Time: 11:45 AM to 1:00 PM
- Location: Sector67, 2100 Winnebago Street (East Side of Madison)
- Parking: Park in lot or on Winnebago Street.
- Process: Members are encouraged to make introductions, describe endeavors, and make request for: contacts in target companies, needs, resources.
- Contact: For assistance, call Tim Chapman 2 0 6 - 2 5 7 0

◦ Membership Upgrades

Those interested in upgrading their IEEE membership level should send their resumes or other information showing five years of significant performance in an IEEE-designated field to Charles J Gervasi via email at cj(at)cgervasi.com. Madison Section Board will attempt to find Senior IEEE members knowledgeable in the applicant's area of practice who may be able to provide references. You are invited to attend the informal networking portion of the monthly Section meetings (starting at 11:30am) to meet the Section Board members and discuss intentions.

◦ About IEEE



The Institute of Electrical and Electronics Engineers or IEEE (read Eye-Triple-E) is an international non-profit, professional organization dedicated to advancing technology innovation and excellence for the betterment of humanity. IEEE and its members inspire a global community through IEEE's highly cited publications, conferences, technology standards, and professional and educational activities. It has the most members of any technical professional organization in the world, with more than 300,000 members in around 150 countries. The IEEE consists of 38 societies, organized around specialized technical fields, with more than 300 local organizations that hold regular meetings. Discover what IEEE Member Discounts can offer you. The Member Discounts portfolio consists of insurance products and programs for the home, office and travel, all at excellent group rates and reduced pricing. Visit IEEE Member Discounts to see what's available in your location and enjoy the savings. For more information, please visit:

IEEE.ORG.

◦ Madison IEEE Section

The IEEE-Madison Section of the IEEE is a section in Region 4 of the IEEE-USA organized to serve IEEE members in the Madison, WI area with over 600 members. The 2016 Officers and Board Members are Charles Gervasi - Chair, Matthew Bartlett - Vice Chair, Tom Kaminski - Treasurer, Steve Schultheis - Secretary, Timothy Chapman - Webmaster, Tom Kaminski - ECN Chair, Dennis Bahr - Engineering in Medicine and Biology Chapter Chair, Ann E. Thompson - Educational Activities Chair, Charles Cowie - Life Member Affinity Group Chair, Chuck Kime - Life Member Affinity Group Vice Chair, Scott Olsen - Membership Development Chair, Members at Large: Mitch Bradt, Clark Johnson, Craig Heilman, Dennis Bahr, Sandy Rotter.

◦ Job Openings

Check out WIEES.com for electrical engineering jobs in Madison and the surrounding region. This site is maintained as a service for electrical engineers. Jobs are displayed starting with the most recent postings first. You can filter results by location and job type. If you are hiring an electrical engineer in our area, for full-time or contract work, you can post the job in the *Contact Us* section on the WIEES.com site. Here is a sampling of the new job listings:

- Electrical Design Engineering Manager, Chicago
- Electronics Design Engineer, Sheboygan

◦ Sponsored Content

Latest EMC Book

*Design Techniques for Controlling Radiated Emissions, 3rd Edition
contributed to and edited by Donald L. Sweeney,
including the latest digital technology, published 2014*

EMC by Your Design

An EMC Practical Applications Seminar and Workshop

using the most recent EMC Design Book
plus take home proprietary computer program,
expanded section on filter design, signal integrity,
and signal return currents on PCB's
and a free 45 min. individual product design evaluation

April 12-14, 2016 (Tues. - Thurs.)
Hilton Hotel, Northbrook, IL



\$300 discount if you register by March 22, 2016.

We are also offering a special 50% discount on the April seminar to attendees of previous D.L.S. seminars who used the 1st or 2nd edition.

Classes fill quickly so register early

email cgorowski@dlsemc.com or call 847-537-6400
www.dlsemc.com/emcdesignseminar

◦ Contact Us

The IEEE-Madison Section has a number of volunteer positions open if you are interested in helping out. Please direct any questions or comments to Tom Kaminski (Newsletter Editor) via email to tjkaminski@ieee.org.

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