

• Upcoming Events

▪ April ECN Meeting: "Tour of the Grainger Makerspace"

Entrepreneurs and Consultants Network



- Entrepreneurs and Consultants Network Meeting
- Professional Meeting
- Date: Thursday, April 5th at 12:00 Noon
- Meet at 11:45 at the Wendt Commons Lobby
- Fee: Free
- Location:
 - Grainger Makerspace
 - Wendt Commons
 - 215 N Randall Ave,
 - Madison, WI 53706
- Please Register at the IEEE-Madison [event page](#).

- Non-member guests are always welcome.

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Tour: The Makerspace is the student-run, rapid prototyping facility within the Grainger Engineering Design Innovation Lab. This was all made possible through a multi-million dollar commitment from The Grainger Foundation. We are a community of designers and builders at UW-Madison run within the College of Engineering (CoE). Our facilities include 12,000 ft² of shop and flex space with a wide range of rapid prototyping equipment. Largely student run, we strive to empower students and create a community immersed in emerging technologies and focused on creating innovative products. We are part of the CoE ecosystem of fabrication facilities, which includes the Makerspace (rapid prototyping), TEAM-Lab (precision machining, fee for service job-shop) and Visualization Suite (virtual reality and data visualization). These facilities together are over 25,000 ft², run by 10 professional full-time staff members and ~50 student workers and contain millions of dollars of high-tech equipment. Students can build anything here: from micro to macro and from virtual to the physical.

Optional LUNCH: Those interested in a post-tour lunch are welcome to join us at the Union South Sett Pub. Typical Pub fare is available, or you can purchase food and drink at other counters on the first floor of Union South.

▪ April UW-Madison Student Branch Meeting: "So You Want to Build a Drone?"



- Date: Thursday, April 5th, 2018
- Speaker: Tom Kaminski
- Details: Food, Social Time, Lecture 5:00 PM
- Pizza and Beverages will be served. \$5 Members, Students Free, Else \$10
- Please Register at the IEEE Madison Section [event page](#).
- Location:
 - UW-Madison Engineering Hall
 - 1415 Engineering Drive
 - Madison, WI53706
 - Room: TBD

Talk:

Drones are now quite commonplace. Aerial photography is one of the most often seen application for camera-equipped drones. Tom will discuss how to build a drone-based on student projects and courses. He will also discuss the UW-Madison Student Branch project to develop a Radio Direction Finding system that can be used to track simple radio beacons. Those beacons are frequently used to track animals or people with autism or dementia who wander. The talk will discuss how to build a drone and how to use the Software-Defined Radio components to listen to radio signals and implement RDF systems.

Bio:

Tom Kaminski has been an electrical engineer for over 45 years and is a recently retired Instructor of the Industrial Maintenance Department at Madison College. He recently taught technicians electrical, electronics, and automation subjects. His primary interest is automation systems with emphasis on instrumentation and control. Tom has many years of engineering experience in instrumentation and digital systems and has spent the last 15 years as a teacher and mentor, helping engineers and technicians to understand the increasingly complex automation systems used in modern manufacturing.

April Section Meeting: "Unmanned Aircraft Systems: Opportunities"



- Date: Thursday, April 19th, 2018
- Speaker: Dr. Chris Johnson
- Details: Food, Social Time, Lecture 11:30AM
- Pizza and Beverages will be served. \$5 Members, Students Free, Else \$10
- Please Register at the IEEE Madison Section [event page](#).
- Location:
 - Sequoia Library
 - 4340 Tokay Blvd.
 - Madison, WI53711

Talk:

Dr. Johnson will discuss a short history of how drones have made the leap from defense to commercial applications in a very short time. He will talk about business opportunities, market segments and industry trends, and he will highlight risks and opportunities in light of the rapidly evolving regulatory landscape around drones.

Bio:

Chris Johnson is co-Founder and President of the Unmanned Aircraft Systems (UAS) Advocacy Network. He is an Air Force Veteran, commercial pilot for both manned and unmanned aircraft, and a certified flight instructor with a PhD in Engineering from the University of Wisconsin - Madison (UW) where he directs the UW Flight Laboratory, which is a Federal Aviation Administration (FAA) Center of Excellence for Aviation Research.

Johnson is an expert in system safety, regulatory compliance and data-management and analytics for the drone industry, and he routinely consults with large enterprise clients seeking to build internal UAS programs. Johnson is also an FAA Safety Team Lead Representative as well as a member of the FAA's Unmanned Aircraft System Safety Team (UAST) Data Science Working Group.

May Life Member Meeting: "West Campus CoGen Tour"



- Date: Thursday, May 3rd, 2018 at 5:00 PM until 6:30 PM
- Tour of the Facility (limited to 20 people)
- Please Register at the IEEE Madison Section [event page](#).
- Location:
West Campus Cogeneration Facility
2380 Linden Dr.
Madison, WI 53711

Tour:

The West Campus Cogeneration Facility (WCCF) provides heating and cooling for the UW-Madison campus and electric power for MGE customers. The cogeneration facility offers a good balance of cost and efficiency to deliver needed electricity with the least environmental impacts. The natural gas-fired plant is one of the cleanest in the Midwest.

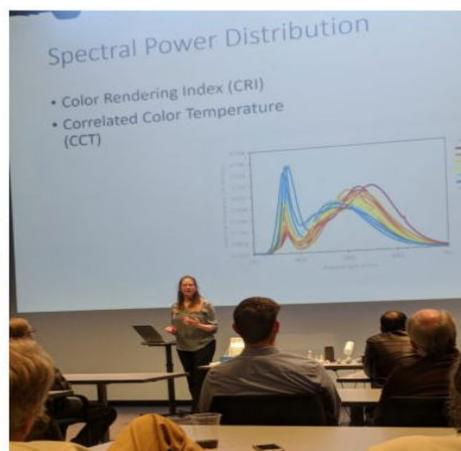
Note:

The Tour is limited to 20 People, so sign up early!

◦ Section News

- **New IEEE-Madison Groups are Forming:** A Joint Chapter of the **Power Engineering Society** and **Industry Applications Society** is forming in the Madison Section. If you are interested in the planning for the groups' activities and structure, please contact Tom Kaminski (tjkaminski at ieee.org). Also a **Young Professional** group is forming as well. If you are currently a professional, but within 15 years of your undergraduate degree, you are eligible to sign the petition forming the group. Please contact Nate Toth (tothnj at gmail.com) to help.
- **March Section Meeting Review:** The meeting, held at ETC in Middleton started with a social and dinner time in the entrance and dining area of ETC. If you have never been to ETC, the initial impression on entry to the building is stunning. ETC has designed the entryway to look a lot like the Theater District in New York City, connecting with the early "Electronic Theater Controls" aspect of the company's existence. It is also a showcase for many of the company's lighting and display products. The reception desk looks like the scene in Edward Hopper's "Nighthawks" painting (see [here](#)) currently at the Art Institute of Chicago.

After eating, we entered the main conference room (whose entrance looks like a movie theater) and listened to a technical talk on LED lighting by Ingrid McMasters. She discussed many of the technical and design issues of LED lighting. General features, such as flicker, glare and contrast are known to lighting designers. Groups are working on defining the standards for Correlated Color Temperature (CCT -- roughly the "hue" of a light rated in degrees Kelvin) and the Color Rendering Index (CRI -- related to how closely the light spectral power matches an incandescent light). Ingrid also demonstrated several different lighting products and showed how different the light can be, based on the type of LED and fixture. Finally, after the talk, two groups were given tours of the ETC facility.



LED Talk and ETC Tour



◦ Upcoming Meetings

- **PES/IAS and Young Professional Groups are Starting:** Power technical talks always generate a lot of interest in the Section. It is time to start a local Chapter of the **PES/IAS** Societies and we are looking for your input. Please get in contact with Tom (see the notices above) if you have any ideas on how it should be organized, where it should meet, and what technical talks or events might be of interest. Also forming is a **Young Professional** Affiliates group -- it is hoped that those engineers and scientists in early stages of their careers can network with other young professionals and find support for their technical and life issues. Mostly the emphasis will be on social events, but other options are possible. Interested in helping? Please contact Nate at the above email address.
- **April MakerSpaces and Drones:** Three of the talks this month are focused on the University of Wisconsin, Madison students, projects, and courses. First up is an ECN tour of the MakerSpace in the Grainger Design Innovation Center -- a 20,000 square foot space in that used to be the first floor of Wendt Engineering Library. Many student projects take form here and we are getting a tour at noon. Please consider staying for lunch at Union South after the tour. Next is a repeat performance "So You Want to Build a Drone" by Tom Kaminski for the Student IEEE Branch later that evening. The third event is a technical talk on the UAV market, rules, and regulations particularly on the risks and rewards of this emerging new technology. Chris Johnson is currently teaching a course in the College of Engineering entitled "EMA-601 -- Introduction to UAVs".
- **May LMAG Meeting:** Will be a tour of the the West Campus CoGen Facility. Note that it is limited to 20 people and that there may well be some stair climbing on that tour.

◦ 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.

◦ 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](mailto: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 2017 Officers and Board Members are Tom Kaminski - Chair, Nate Toth - Vice Chair, Charles Gervasi - Treasurer, Steve Schultheis - Secretary, Nate Toth - Webmaster, Tom Kaminski - ECN Chair, Dennis Bahr - Engineering in Medicine and Biology Chapter Chair, Chuck Cowie - Life Member Affinity Group Chair, San Rotter - Life Member Affinity Group Vice Chair, Scott Olsen - Membership Development Chair, Members at Large: 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.

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• 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\(at\)ieee.org](mailto:tjkaminski(at)ieee.org).

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