IEEE

Madison Section Newsletter

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• Upcoming Events

- **October ECN Meeting: "100State Tour"**

  - Monday, October 29th, 6:30-8:00 PM
  - Speaker: Claudia Seidenberg, Executive Director
  - Location:
    100State, Suite 675
    316 West Washington Avenue
    Madison, Wisconsin 53713
- Please Register at the IEEE-Madison event page.< /li>

Tour:

The event will feature a tour of the new facilities for 100State on West Washington Street . 100State, the largest co-working facility in Wisconsin, is non profit entity created to help our community solve problems. It is a community and home for problem solvers, creatives, and entrepreneurs that inspires collaboration and creates connections to unleash the community's potential. 100State started when a group of entrepreneurs, who were working out of a train car on W. Washington Ave, moved to 100 State Street to build an even larger community of problem solvers. Since its inception on June 7, 2013, 100state has grown rapidly, connecting members to opportunities and challenges by hosting brainstorms, creating events to encourage collaboration, and providing an inspiring environment. On January 2nd 2017 100State moved to an even bigger space at 316 W. Washington Avenue and now offers more space in the newly renovated 6th floor.

Bio: Claudia is the current Executive Director at 100State. Sh e studied strategic development and women's health at the University of Wisconsin. She has an active interest in early stage companies and strategic planning. Claudia focuses on maintaining 100state's operability and ensuring that all members are able to connect with the community and grow their businesses. She is passionate about solving social issues and hopes to encourage collaboration and community growth within 100state.

- **November Life Member Meeting: "Grandparents University"**

  - Thursday, November 1st, 4:45-6:15 PM
  - Presenters: Makerspace Staff
  - Location:
    UW Grainger Engineering Design Innovation Lab
     215 N Randall Ave
    Madison, Wisconsin 53706
  - Please Register at the IEEE-Madison event page.

    Talk: Grandparent s University (GPU) is an award-winning program of The Wisconsin Alumni Association and UW-Extension's Family Living Programs. It is an intergenerational learning experience for children aged seven to 14 who are accompanied by a grandparent(s) or older adult relative(s) who is not a parent. The two-day program is offered several times each summer. The GPU experience includes staying in a residence hall, touring the campus, going to class, participating in engaging and hands-on activities in a major and earning a GPU "degree." Classes and activities can be selected from about 20 fields ranging from Art to Wildlife Ecology.

    Parking: should be available in Lot 17, the ramp at 1525 Engineering Drive. Lot 80, the Union South Garage at 1308 Dayton is closer, but more likely to be full. Two nearby lots are free after 4:30 PM: Lot 45 at 165 Mills and Lot 54 at 112 N Charter.

Loca tion Details: The Grainger Engineering Design Innovation Lab (makerspace) is in Wendt Commnons next to Union South. Please come to the front desk on the 2nd (ground) floor and someone will direct you to our meeting location.

- ## November Section Meeting: "IoT: Privacy and Security"

  - Thursday, November 8th, 5:30-6:45 PM
    Joint Meeting with UW Student IEEE and Society of Women Engineers
  - Speaker: Dr. L. Jean Camp, University of Indiana
  - Location:
    UW-Madison Engineering Hall
    Room: To Be Assigned
    1415 Engineering Drive
    Madison, Wisconsin 53711
  - Please Register at the IEEE-Madison event page.

  Talk: We are entering an Internet of Things (IoT) era. It is widely recognized that comput er security and privacy for an IoT ecosystem is fundamentally important and challenging. It is important because security and privacy lapses in IoT devices can cause financial, social, and physical harms to people and their environments. It is challenging because of the technical properties of IoT devices and because of the complex issues that arise when designing technologies for diverse stakeholders.

  Any significant advance in the state of the art in security and privacy for an IoT ecosystem will require a large, interdisciplinary effort that takes into account not only the technical side, but considers how groups of stakeholders interact with the technology. Making such advances is the goal of our proposal. The talk propose a holistic approach to IoT security and privacy, blending research in human-computer interaction, computer security, cryptography, and ubiquitous computing. We envision our work providing a strong and broad foundation for improving the secu rity and privacy of future IoT systems; we will work with key stakeholders throughout the project to ensure our work has the greatest possible breadth, depth, and impact.

  The talk focus is primarily be on IoT devices in the home. This environment is one of the most complex environments in which to consider IoTsecurity and privacy, due in part to the diversity of stakeholders involved, their complex social relationships, and the diversity of computer security and privacy expertise within and between homes.

  The talk considers IoT security and privacy along multiple axes: stakeholders involved (e.g, device owner, family members, friends, hired help), the lifecycle of IoT devices (development, installation, use, and abandonment), the potential harms to stakeholders (e.g., physical harms to people or property, privacy exposures from IoT sensor data, or the adversarial use of IoT devices as stepping stones to compromise other computers),ease of use of secu rity solutions, mental models of different stakeholders, security and privacy risks that might arise both during normal use (e.g., because of poor configuration options) and risks that might arise as a result of adversarial action (e.g., adversary compromising a back-end database or a device in the home).

  Bio: L. Jean Camp is a Professor at the School of Informatics and Computing at Indiana University. She is a Fellow of the Institute of Electrical and Electronic Engineers. She is a Fellow of the American Association for the Advancement of Science. She joined Indiana after eight years at Harvard's Kennedy School where her courses were also listed in Harvard Law, Harvard Business, and the Engineering Systems Division of MIT. She spent the year after earning her doctorate from Carnegie Mellon as a Senior Member of the Technical Staff at Sandia National Laboratories. She began her career as an engineer at Catawba Nuclear Stat ion with a MSEE at University of North Carolina at Charlotte. Her research focuses on the intersection of human and technical trust, leveraging economic models and human-centered design to create safe, secure systems. Her early contributions in the interdisciplines of economics of security, user-centered security, risk communication, and online trust underlie her applied research in the domains of IoT, authentication, secure networking, ecrime, ethics in computer science, and a few works on applied cryptography.

  Note: This is a joint meeting with the UW-Madison IEEE Student Branch and the UW-Madison Society of Women Engineers

- # Section News

  - **Madison Section Officer Nominations Open:** Greetings! The fall is upon us, which means that elections are coming up. Not just the fall mid-terms, but for the officers of IEEE-Madison. Our officer positions include Chair, Vice Chair, Treasurer, Secretary, and Members At Large. Our officers run the local Section, manage its finances, schedule its meetings, and manage communications with membership. Being an officer of an IEEE section has, to me, been a very good experience. I have learned a lot, and have developed a great deal of respect for the organization. I believe that my fellow officers, both past and present will agree. One of my duties as Vice Chair is to organize elections and form/lead an officer nominating committee. Therefore, my ask this month is for a few volunteers for the Officer Nomination Committee. We will be tasked with finding folks to run for these positions. This will not be a heavy time commitment, but our duty is important. Please reach out to me if you would like to be on this committee, run for office, or volunteer your time in any other way. Or if you have any questions, please reach out to me. I can be reached by email at tothnj@gmail.com.

    Thank you very much!
    Nate Toth
    Vice Chair, IEEE Madison

- **Review of May Life Member Affinity Group Tour:** The May event for LMAG was a tour of the University of Wisconsin / Madison Gas and Electric West Campus Cogeneration Facility. The tour started in the control room with a presentation by Kent Elliott, MG&E Senior Electrical Engineer. Kent explained the operation of the facility using a pictorial diagram showing the major components and the flow of natural gas, air, combustion exhaust, steam, water and electric power. He explained how heat recovered from the gas-fired turbine generators is used to operate a steam turbine generator and contribute to heating the UW campus. During and after the presentation, Kent and other MG&E personnel answered questions and part icipated in additional discussion.

  The tour included the boiler-water treatment system, natural gas compressor, black-start engine-generator set, steam and gas turbines and generators, motor controls and switchgear, battery bank used for switchgear operation, chillers and other equipment. Both the presentation and the tour were very well delivered and greatly appreciated by the attendees.

  Photos of the tour are posted [here.](#) Thanks to Chuck Cowie and Doug Otto for the photos. A detailed YubTube video by Ham Radio operator KB9VBR is [here.](#)

- **Review of WMTV Channel 15 Madison WI Station Tour:** WMTV Channel 15 in Madison WI, totally rebuilt their studios in 2016 so in this tour you will see a lot of state of the art equipment and a completely digital workflow. We'll be touring four parts of the station: the studio, control room, server racks, and newsroom. If you've had any experience with broadcast television, you'll be amazed at the level of automation in this station.

  On Thursday, September 6th, the IEEE Madison Life Member Affinity Group is hosting an evening tour of Madison's WMTV NBC 15 television station. This is a completely new station constructed in 2016 and equipped with state of the art equipment. We will see the studio sets, control room, newsroom and digital processing equipment room. All of the programming is digitally processed and automated. The studio cameras are robotically controlled by commands embedded in the scripts.

  Th e September LMAG event was a tour of Madison's WMTV NBC 15 television station led by Tom Weeden, Chief Engineer of the facility. Tom told us something of the history of TV stations in Madison and extensively explained the workings of today's state of the art WMTV station. We saw preparations and delivery of one of the early evening news programs. There were no camera operators. Each presentation position, news, weather, sports, is covered by several cameras set in fixed positions. Camera tilt, pan and zoom are computer controlled by commands embedded in the scripts. Embedded commands also control the delivery of pre-recorded content.

  Photos of the station taken by Doug Otto are posted [here.](#)

Upcoming Meetings

- **Follow us on Facebook**: https://www.facebook.com/IEEEMadison
- **October ECN Meeting:** On **MONDAY**, October 29th the Entrepreneurs and Consultants Network will hear about and tour the 100State facility at 316 W. Washington Ave. Suite 675. Claudia Seidenberg will talk about 100State, Wisconsin's largest co-working space. Because it is an active office space, the talk and tour will be held from 6:30 PM until 8:00 PM.
- **November IEEE-Madison Section Meeting:** On November 8th, Professor L. Jean Camp from the School of Informatics and Computing at Indiana University will be giving a talk on the security of Internet-of-Things (IoT). Professor Camp is a Fellow of the Institute of Electrical and Electronic Engineers and a Fellow of the American Association for the Advancement of Science. Her research focuses on the intersection of huma n and technical trust, leveraging economic models and human-centered design to create safe, secure systems. A venue for this talk has not yet been scheduled, but will likely be at the University of Wisconsin-Madison. There will be a reception after the talk for volunteers and student leaders from the IEEE Student Branch and the Society of Women Engineers.

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 tec hnology, 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: Varies
- 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. 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 att end 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 Electronic s 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:

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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.

Madison Section : http://sites.ieee.org/msn/

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