



Madison Section Newsletter

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Serving IEEE Members of South Central Wisconsin

April 2020

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Upcoming Meetings

April 20th (WebEx Remote): The Carbon Free Farm
Monday, April 20th at 1:00 PM On-Line
[Event Info](#)

Message from our Section Chair

Upcoming Meetings

IEEE-Madison Slack Channel Established

Things to do While "Safe at Home"

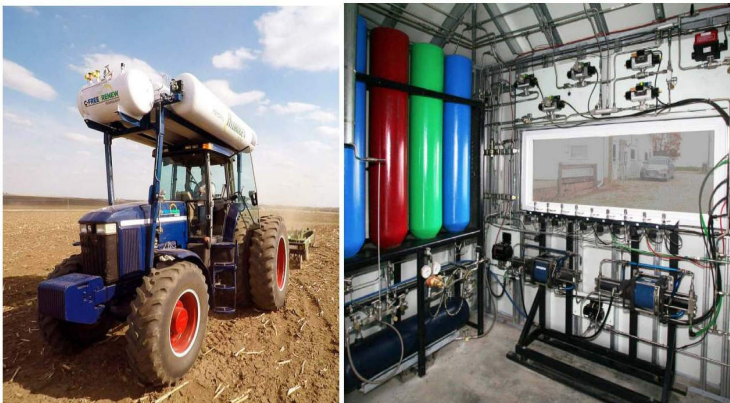
News/Announcements

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Upcoming Meetings

Joint Iowa State/IEEE Madison WebEx Seminar

CARBON FREE FARM



- Monday, April 20th, 1:00 PM to 2:10 PM
- Jay Schmuecker of Pinehurst Farm, Blainstown, Iowa
- Location:
 - On-Line via WebEx from Iowa State University
 - (WebEx link on Registration Page)

- Please Register at the IEEE-Madison [event page](#).
- Read the IEEE-Spectrum November 2019 Article about Jay's Effort [here](#).

Talk: Jay Schmuecker's aim is to make the public—especially farmers—aware that we will need to develop such alternative fuels and fertilizers as fossil fuels become depleted and more expensive, and as climate change worsens. Developing local manufacturing processes to generate carbon-free fuel and fertilizer and powering those processes with renewable energy sources like solar and wind will eliminate farmers' reliance on fossil fuels. And doing this all locally will remove much of the cost of transporting large amounts of fuel and fertilizers as well. At the demonstration project at Pinehurst, colleague David Toyne, an engineer based in Tujunga, Calif., and Jay have shown that sustainable farming is possible. But much like designing spacecraft, the effort has taken a little longer and presented many more challenges than initially expected.

Bio: Jay Schmuecker worked for more than 50 years building planetary spacecraft at NASA's Jet Propulsion Laboratory. Since retiring, he has been developing a solar-powered hydrogen fueling and fertilization system at Pinehurst Farm in eastern Iowa.

Message from the IEEE-Madison Section Chair

Greetings! I hope you are all staying healthy during these difficult times. As you are aware, the COVID-19 pandemic is affecting Dane County heavily. As of this writing, over 100 of our neighbors have COVID-19. Most businesses are closed, and many of us are working remotely. Many of our neighbors have been laid off or are on very reduced hours. For IEEE Madison, we are going to cancel all in-person meetings until further notice. I will be exploring options for virtual meetings, so keep an eye out for that.

We are all supposed to be working from home or staying at home according to our Governors "Safer-At-Home" order. How are you spending your time? Are you bored yet? Here are some ideas to consider staying mentally and physically active, instead of watching everything on Netflix.

- Read a good book - we all have at least 1 book on our shelves that hasn't been read yet.
- Learn a new skill, or enhance an existing skill - want to learn Python or another computer language? Now is a great time.
- Take walks around your neighborhood.
- Speaking of walks, you know who likes walks? Dogs. If you don't have a dog, the Dane County Humane Society has dogs for adoption. And if you are stuck at home for a month or more, it's a great time to gain a new best friend. - [GiveShelter](#).
- Connect to family/friends using Google Hangouts/Skype/Facetime.
- Cleanup your home network - apply updates on all devices, straighten up cabling, backup your computers.
- Finish up all those house projects.
- Explore the resources available to us through IEEE and the Societies you are a member of.

Whatever you do, remember to practice good social distancing (stay 6 feet from others), wash your hands or use hand sanitizer after spending time outside of your home, eat well, and hydrate. I hope that we all make it through this pandemic. If there is anything you need from me, feel free to reach out.

Take care and stay healthy,

Nate Toth,
IEEE Madison Chair, Webmaster
tothnj@ieee.org, 608-571-3029

Upcoming Meetings

- **April On-Line Joint Section Webinar:** In November, 2019, Jay Schmuecker published an article in IEEE Spectrum Magazine entitled "The Carbon Free Farm". The Technical Activities Committee of the IEEE Madison Section had invited Jay Schmuecker to speak in Madison based on this description of his experimental Carbon-Free [Pinehurst](#) farm. However, the Covid-19 pandemic threw a monkey-wrench into the works. Jay is not far from Iowas State where Anne Kimber had also invited him to give a talk. Anne Kimber is the Director of the Electric Power Research Center (EPRC) within the Department of Electrical and Computer Engineering at Iowa State University. She agreed to host a WebEx seminar for Jay's talk.

IEEE-Madison members may view the talk, in parallel with students and faculty at Iowa State and likely a number of power companies in the region. Anne Kimber sent this note: "Since we first talked to you about this we have received emails from the Iowa Economic Development Authority about a new grant they have awarded to Ideal Energy, (including Greg Wilson, a former National Renewable Energy Lab Program Manager for Photovoltaics). Ideal Energy, IEDA, and MidAmerican are very interested to attend this webinar." You can view information about Ideal Energy's Renewable H2 concept at this [Ideal Energy Presentaion Link](#).

Review of Past Meetings

- **Executive Committee Meetings:** At the previous IEEE-Madison Section Executive Committee meeting, held on February 27th, a schedule of 8 on-line and 4-in-person ExComm meetings was adopted. The first on-line meeting via Zoom was successfully held on March 31st and future on-line meetings will be open to the general IEEE membership. It was determined that April will have two on-line general meetings via some technology (to

be determined), the first-of which is the meeting listed above. Hopefully, the PES/IAS Chapter will host one as well and possibly, the LMAG group. Stay tuned!

IEEE-Madison Slack Channel Established and Open to IEEE Members

- **What is Slack?:** Slack is a messaging application that works on most modern computing platforms, including cell phones. Many organizations use slack to quickly connect with people and conduct business. You can share files and create sub-channels for discussion. IEEE-Madison is using the free version of slack that has limited features.
- **Executive Committee Presence:** Members of the IEEE-Madison Executive Committee have joined a Slack Channel and will be available to discuss issues you might bring up.
- **For more:** See this YouTube Video [on Slack](#). Also see this site: [What is Slack?](#)
- **Get an Invitation to Join the IEEE-Madison Slack Channel:** at [Slack Channel](#).
- **Access it here:** [IEEE Madison Slack Channel](#)

Things to do While "Safe at Home"

- **Covid "Safe at Home" got you down?:** I understand that it is difficult to not be engaged in work. Hopefully, your employer is letting you work at home using one of the many internet tools. I have used WebEx and Zoom as well as testing and Facetime. My wife and I made an offer (accepted) on a condominium downtown and now have lots of free time to sift through 35 years of accumulated junk! The problem is that St. Vincent's and Goodwill are now shut down, though Habitat Restore is still taking donations. Even the City of Madison Recycling center is closed. I did manage to get some building supplies delivered from Menards/Home Depot and am covering the peeling lead paint on my garage prior to our existing home sale. You may not be so lucky. I polled the Executive Committee about what to do and some responded. Nate Toth's message above has some ideas. Here are some others:
- **Experiments for Kids:** Chuck Cowie had a Webex discussion with Ken Connor, an IEEE Life Fellow who has returned to Madison after a career at RPI. One of the things they talked about is finding science activities for kids that can be done with materials found in most homes. A source that he recommended is Flying Circus of Physics. See this [link](#).
- **Arduino/Raspberry Pi:** For the budding Computer Scientist/Computer Engineer, there are a number of very simple computers that have a wealth of educational activities. All are available from on-line retailers, but there might be some delays due to prioritization of essential deliveries. The Raspberry Pi was designed as an educational computing platform. See [RaspberryPi.org](#) for details.
- **Access your library Remotely:** Though Library Branches in many cities are closed, you can still access your library remotely and borrow e-books and audio books. No library card? You can even get a virtual card on-line. See this [link](#) for the Madison Libraries.
- **"19 Suggestions for Bored Engineers":** The April edition of the IEEE Spectrum had some suggestions. See [here](#).
- **Try Engineering:** Craig Heilman noted that IEEE Sponsors a web site, [TryEngineering.Org](#), with suggested activities for educators (you, now that your kids are home all day) and students.
- **Alice3:** I was quite impressed with the December Maydm's educational outreach STEM program where young students learned programing using "Alice". It is an interactive programming environment that lets students program their own interactive "story". Alice was developed by CMU as a tool to teach young students programming. It is free and runs on most platforms, though it does require a decent computer. A good series of introductory YouTube videos are available starting [here](#). You can download the FREE program [here](#).

Let us know how it is going -- email me (tjkaminski@ieee.org) or connect on our Slack Channel!

News/Announcements

- **Volunteers:** We need volunteers for: YP, ECN, LMAG, PES/IAS, Section and EMB.
- **Free On-Line Books:** "For Members Only: All IEEE-USA eBooks and Audio Books -- Now Free to All IEEE Members!
WASHINGTON (1 April 2020) -- IEEE-USA's eBooks and audio books help IEEE members advance their careers, work on their soft skills, learn about public policy, even provide a fun distraction--and now, for the first time, the whole collection is available to all IEEE members for free in the IEEE-USA [Online Shop](#).

"This is a difficult time for our members and our country, as the world deals with this unprecedented public health situation," said Jim Conrad, 2020 IEEE-USA President. "By providing all of our eBooks for free to our members, we hope to make their time at home in isolation a little more productive. Some of these e-books are also helpful for those members who are facing job security questions, or recent unemployment."

All IEEE members can now access for free titles on careers, skill development, professional development, and other topics from industry veterans such as, Caring for Your Project Team, by Harry T. Roman; The In's and Out's of Mentoring, by Peggy Hutcheson; and Critical Thinking Skills for Engineers--Book 1: Analytical Skills, by Sridhar Ramanathan. Members can also now get free IEEE-USA's first comic book, complete with new engineering superheroes, The Slate Twins: Caught in the Currents, Vol. 1, by cartoonist Jeff Knurek.

IEEE Madison Leadership

- Section Chair - Nate Toth

- Section Vice Chair - Hugh Schmidt
- Section Treasurer - Tom Kaminski
- Section Secretary - Mike Stemper
- Webmaster - Nate Toth
- PES/IAS Chair - Mike Stemper
- PES/IAS Vice Chair - Dan Ludois
- PES/IAS Secretary/Treasurer- Don Neumeyer
- EMB Chapter Chair - Dennis Bahr
- Life Member Affinity Group Chair - San Rotter
- Life Member Affinity Group Vice Chair - Charles Cowie
- ECN Chair - Matt Nowick
- Young Professionals Chair - Thomas Murphy
- Members at Large: Clark Johnson, Craig Heilman, Dennis Bahr

Membership Upgrades

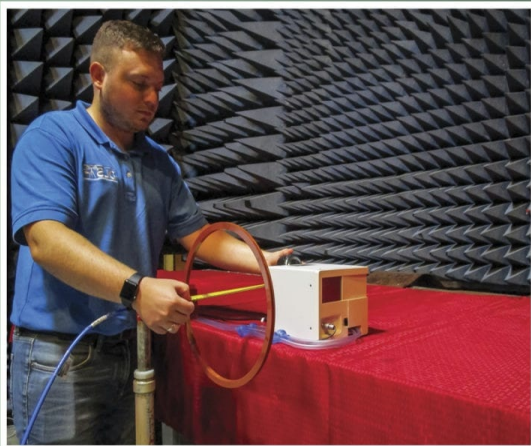
Those interested in upgrading their IEEE membership level should be aware that the process has been streamlined with much of it on-line. The application process can start with your application as described on line [here](#). You will have to provide the names and IEEE numbers for three Senior Members in your field. The Madison Section Chair (Nate Toth at tothnj@ieee.org) can help, or attend the informal networking portion of the monthly Section meetings to meet the Section Board members and discuss your intention to elevate.

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.

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Standards Update Required for Medical Compliance



The new 4th Edition IEC/EN 60601-1-2 Medical Device for EMC is now in effect. This new standard has several changes and includes additional test requirements, including more stringent testing criteria, a greater emphasis on risk management requirements, higher immunity levels and multiple locations for intended use with different testing criteria to name a few.

New FDA Requirements now include immunity from RFID devices, using AIM 7351731 as the preferred method of compliance. There is no grandfather clause for past testing and performance. D.L.S. offers a comprehensive design review and transitional analysis to help determine the specific requirements needed to maintain existing products compliance, and to confirm new products meet the new standards requirements as well. Contact us today.



Schedule a transitional analysis to determine the current compliance requirements for your product

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