



Madison Section Newsletter

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IEEE-Madison Upcoming Meetings

IEEE ECN: "Virtual Music Jamming with Low Latency Networked Systems"
Thursday, April 15th at 6:45 PM On-Line

[Event Info](#)

IEEE Section: "Productivity in Building Construction: BIM, Energy, & Software"
Thursday, April 29th at 11:30 AM On-Line

[Event Info](#)

IEEE-Madison Committee Corner

IEEE-Madison Student Activities Coordinator

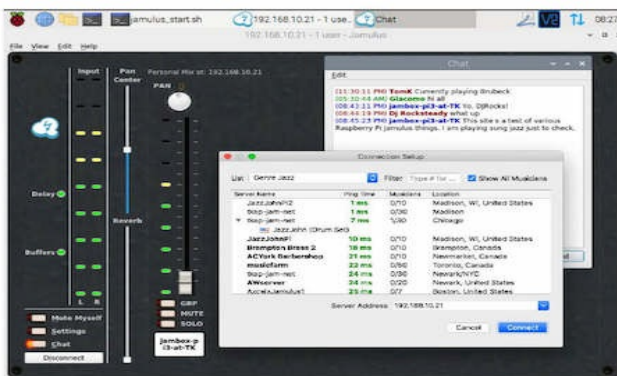
News/Announcements

IEEE-Madison Slack Channel

Sponsored Content

IEEE-Madison Upcoming Meetings

IEEE ECN Affiliate Group: "Virtual Music Jamming with Low Latency Networked Systems"



- Thursday, April 17=4th at 6:45 to 8:30 PM
- Virtual Talk
- Location:
 - On-Line (Link will be emailed from your registration information)
- Please Register at the IEEE-Madison [event page](#).
- Sponsored by IEEE-Madison Entrepreneurs and Consultants Network Affiliate Group

Talk: With covid-19 restrictions on indoor gatherings, it has been difficult for musicians to get together for in-person musical performances or practice sessions. However, there are a number of networked system applications that potentially allow on-line "virtual" jamming. The key to good performance is low-latency network connections and audio systems with low-latency ADC/DAC components and computationally efficient algorithms for network communications. Another stumbling block for many musicians is that the technology is often hard to understand or use.

Working with John Lombardo, an IEEE-Madison member and leader of a local Jazz group, SwingTime Music, the author built and tested a number of "musical appliances" based on the Raspberry Pi with sound cards or USB connected DAC/ADC boxes. In addition, Anton Kapela and 5Nines, a Madison-based data technology company, put up virtual servers and helped establish low-latency routing from local musicians to the server. The result is an acceptable level of delay that supports virtual jamming.

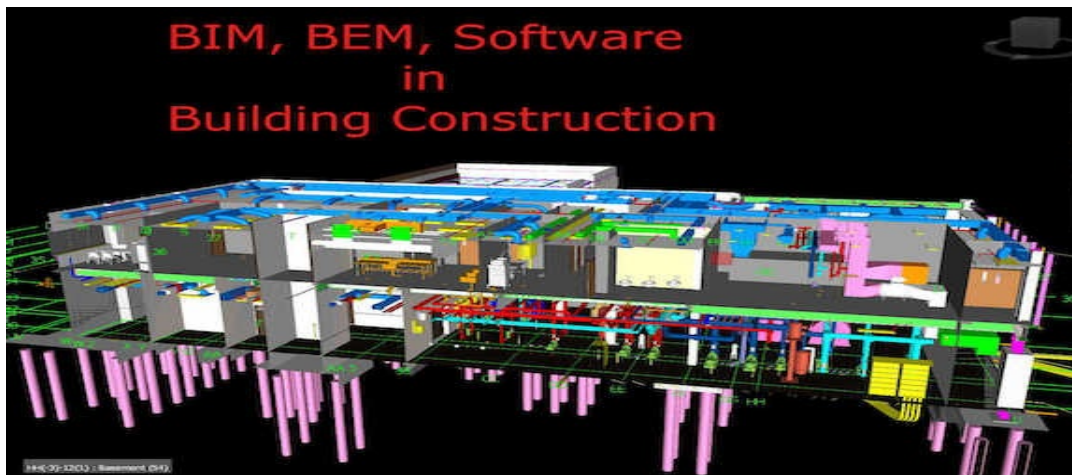
A second goal was to develop a simple appliance that students of music could use with little or no fuss and that could be controlled by a simple browser. That goal was met by using a pre-built operating system (Jambox) with real-time preemption and a VNC interface that is accessed with a browser. The system supports both client/server jamming and peer-to-peer jamming without having to configure complex firewall routers on the typical home ISP box. It does, however, have to be connected via a wired Ethernet cable for lowest, consistent latency.

Bio: Tom Kaminski is a retired instructor of Automation from Madison College. He has been working on using SoCs to solve system integration problems for years and has several products using SoCs under development, including a Sonic Boom recorder for use by NASA, a Community Noise Monitor, and a Light-Rail Ride Quality device. The music applications from this talk are a natural extension of the previous sound recording work.

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IEEE-Madison Section: "Productivity in Building Construction: BIM, Energy, & Software"



- Thursday, April 29th at 11:30AM to 1:00 PM
- Virtual Talk
- Location:
On-Line (Link will be emailed from your registration information)
- Please Register at the IEEE-Madison [event page](#).
- Sponsored by IEEE-Madison Section

Talk: This Virtual Meeting features three speakers that will present an overview of important productivity tools for the Construction industry. Each speaker will give a 20 minute overview of one general area. The last 30 minutes (more if there are still questions) dedicated to a Q&A.

The Topic areas and speakers are:

1. BIM to BEM: Agile Energy Modeling for High Performance Building Design
Krishnan Gowri, Ph.D., BEMP, LEED AP, ASHRAE Fellow, Senior Consultant at Intertek
2. BIM Standards Activity, Collaboration, and Engineering in the BIM Environment
M. Dennis Knight, P.E., FASHRAE, Founder & CEO of Whole Building Systems, LLC

3. Construction Technologies that boost Productivity

Josh Baysinger, Virtual Construction Manager, J.H. FINDORFF & SON INC.

Bios:

Krishnan Gowri is a subject matter expert with more than twenty five years of experience in building science, high performance building design, energy codes, energy modeling and building performance simulation software tools. Krishnan lead the development of COMcheck commercial building code compliance software and served as a consultant to ASHRAE 90.1 Envelope Subcommittee on the infiltration analysis and progress indicators for the 90.1-2013 version of the standard. In his role as product owner at Autodesk, Krishnan was responsible for EnergyPlus integration with Revit and Insight for heating and cooling load calculations and early design analysis. Krishnan also has more than ten years of experience with energy efficiency evaluation of Federal buildings implementing low-cost/no-cost measures. He is an active member of the ASHRAE technical and standards committees on computer applications, BIM and energy modeling.

Dennis Knight has 47 years experience in the design, construction and operation of buildings. Dennis holds dual registration as a Professional Engineer in Mechanical and Fire Protection Engineering and is a Principal and Founder of Whole Building Systems, LLC located in Charleston, SC. He has been applying technology to improve quality control and increase productivity in the building industry since he first used 3 dimensional CAD/CAM tools to help design, prefabricate and construct nuclear power plant piping systems in the late 1970s. He is an ASHRAE Distinguished Lecturer on Integrated Building Design and Building Information Modeling and an active member of the BIM Multidisciplinary Task Group and Standard Project committee 224P - The Application of BIM. Dennis is a co-author of the National Institute of Building Sciences National BIM Guide For Owners (NBGO) and he is the Chair of the US Technical Advisory Group (TAG) for ISO Technical Committee 59, Subcommittee 13 which is responsible for the development ISO BIM Standards 19650 Parts 1 through 5 that are being used throughout most of the world outside the US as a framework for applying BIM to the design, construction and operation of the built environment.

Josh Baysinger began his career at Findorff in 2007 in the Virtual Construction department. As Findorff's Virtual Construction Manager, Josh is passionate about exploring new ways to use technology that help inform project teams on potential solutions. Josh leads the Virtual Construction team which focuses on how to utilize innovative technologies and improve construction processes by increasing efficiency, exchanging communication, and mitigating risk on a job site. Throughout his career, Josh has been involved in many types of projects that range from minor renovations to large additions and standalone buildings.

IEEE-Madison "Committee Corner"

Chuck Cowie, IEEE-Madison LMAG Vice Chair

I have been working on a virtual tour of the Wisconsin Science Museum and virtual presentations about basic electricity from ancient times to the Voltaic pile. These will be part of UW Science Expeditions, a mostly virtual event with some live interactive elements and many YouTube videos. The UW Engineering virtual open house will also be linked from Science Expeditions. This is mostly for K-12 students, but adults may find some interesting elements. See "Sponsored Content" below for the UW event.

Don Neumeier, Secretary-Treasurer for the IEEE-Madison PES/IAS Chapter

The Invention of Modern Weather Systems Science

I really enjoy reading history and I am a kind of weather nerd. Yes, I have digital, wireless weather station. There is no such thing as bad weather, just the wrong gear. Having grown up in Southeast Missouri on the Mississippi River, the seasons presented a range of lightning storms, tornadoes, downpours, and flooding. Snow was limited to a few days a year. My spouse and I moved to Madison Wisconsin for a job, the University, and for four, full seasons although Spring is always late.

I am reading a book by Johnathon Martin, UW Professor in the Department of Atmospheric and Oceanic Sciences. He is one half of the Weather Guys with colleague Steve Ackerman who write a weekly column on weather and climate science for the Wisconsin State Journal and appear regularly on Wisconsin Public Radio. I meet them both in 2008 at a lunch and learn event.

I read a few weeks ago, a notice of Johnathon Martin's new book, Reginald Sutcliffe and the Invention of Modern Weather Systems Science. I watched a live interview podcast "Virtual Author Visit: Jonathan E. Martin" conducted by his daughter-writer. I immediately signed up to pick up the book at "It is a Mystery to Me" bookstore on Monroe Street.

The book is a great biography of Professor Sutcliffe and the development of meteorology and how it moved from just observational recordings to scientific forecasting. The biography is also presented with the backdrop of cultural, world political, social, and educational scenes.

The book's reviewers point out that Sutcliffe's research and contributions are very informative at this time as many try to explain the climate changes we see and what tools and research can help us predict the long-term weather and our environment.

One can see a replay of the interview at: <https://www.crowdcast.io/e/sutcliffe/1>

If you are interested in ordering Reginald Sutcliffe and the Invention of Modern Weather Systems Science, and supporting your local, independent bookstore, one can email: info@mysterytomebooks.com or call them at 608.283.9332. They can ship books anywhere in the United States.

Matt Nowick, IEEE-Madison Section Treasurer

I would like to encourage participation in the ExCom meetings by making the meetings more convenient and more welcoming to new volunteers. A good first step would be to set up a regular monthly meetings at the same time. I

propose a convenient day of the week, perhaps the 2nd or last Thursday of the month at 7pm. Please let us know what a good time and day of the month is good for you.

Dennis Bahr, IEEE-Madison Engineers in Biology and Medicine (EMB-018) Chapter Chair

On April 1st the local IEEE EMB-10 section set up a virtual event entitled "Unlimited Range Electrified Drones for Emergency Medical Response Activities - Dr. Carolyn McGregor AM & Dr. Sheldon Williamson. Very interesting and informative. On another note, I have contacted about 20 members of the EMB Chapter and only a few who are interested in helping out as volunteers. Interested in volunteering? Email me at bahr@inxpress.net please.

Clark Johnson, IEEE-Madison Member-at-Large

We need to get this guy to talk to us: [Technical Jargon Overload](#)

Mike Stemper, IEEE-Madison PES/IAS Chapter Chair

I'm a Badger by birth, upbringing, and education. I earned my EE degree (with the power option) here at UW. Unfortunately, my grades weren't good enough to land me a job here in America's Dairyland. I did what Brett Favre would duplicate many years later, and moved to Minnesota.

I spent my entire career in the electric utility industry. I did substation work for an IOU for a few years, followed by system planning and stability studies for a G&T coop. From there, I went to a vendor of SCADA/EMS for large utilities, where I spent the next three decades in various roles.

In July of 2013, my then-employer offered me six months' salary to go away. Within four months, I had moved back to my home, Wisconsin. I chose to locate in Waunakee because a dozen miles south and east gets me on campus with all it offers, while a dozen miles the other way gets me into the southern edge of the Driftless Region, where I spend many hours hiking.

IEEE-Madison Student Activities Coordinator

We are seeking a volunteer for the role of Section Student Activities Chair. The main duty of this role will be to coordinate with the IEEE Student Branches at UW Madison and UW Platteville and encourage their development and growth. The Section Student Activities Chair will lead the Section Student Activities Committee, which will consist of the Student Branch Chairs and any other members appointed to the committee. The Section Student Activities Chair will be a voting member of the Executive Committee. If you are interested in this role, or have questions, please reach out to Hugh Schmidt, Section Chair (hfschmidt@wisc.edu).

News/Announcements

- **Volunteers:** Consider giving some time to the IEEE Madison community by volunteering. We need volunteers for: YP, ECN, LMAG, PES/IAS, Section Officers, and EMB. In particular we need a volunteer for **Section Secretary** and **Student Activities Chair**. We also are looking for volunteers to start a Madison Section Women in Engineering Affinity Group.
- **Friday Afternoon Club:** IEEE-Madison Section Officers have been testing virtual event structures with more social interaction. The primary purpose of the event is to develop a regularly scheduled meeting with more of an open social discussion to engage our members and keep them connected in covid-19 restricted times. Think of it as the social time before an IEEE meeting where you get to talk to attendees in more of a one-on-one format. So far we have tested WebEx, Zoom, Jitsi and Gather Town. The virtual event should make it easy to go off and talk one-on-one or with a small group about a common topic of interest. Do you have any ideas, or are you interested in the test case? If so, email Hugh at hfschmidt@wisc.edu and let him know. It is likely we will have another test run on Friday, April 9th at 4:30 PM.

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](#)

IEEE Madison Leadership

- Section Chair - Hugh Schmidt
- Section Vice Chair - Mike Stemper
- Section Treasurer - Matt Nowick
- Section Secretary - <open>
- 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: Nate Toth, 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 (Hugh Schmidt, hfschmidt@wisc.edu) 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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2021
UW-Madison

SCIENCE EXPEDITIONS

Explore science - wherever you are!

April 9-11

All events are **FREE** and open to the public.

Virtual events available.

Event website: science.wisc.edu/science-expeditions
19th Annual UW-Madison Science Expeditions Campus Open House 2021

EVENT CONTACT: Tom Zinnen • zinnen@biotech.wisc.edu • (608) 265-2420

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