

Robots that Fly for Technical Education: Sponsored Student Projects at MATC

Date: **Thursday, May 16, 2013**

Time: 11:45pm - 1:15pm

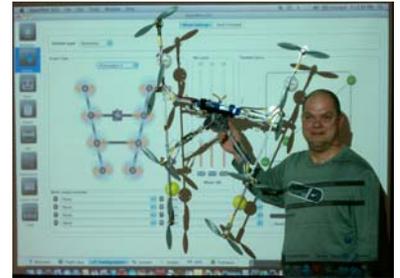
Speaker: Tom Kaminski, Professor, MATC

Agenda: Informal networking will begin at 11:30am.
Presentation: 12 noon.

Location: Madison Area Technical College (MATC)
1701 Wright St., Room 129C
Madison, WI 53704

Menu: Lunch meal provided: \$5 for IEEE members, \$10 for non-members, **free for students.**

RSVP: Deadline: May. 13. Go to https://meetings.vtools.ieee.org/meeting_view/list_meeting/18231 to register. Please send questions or difficulties to CJ Gervasi at cj@cgervasi.com



Abstract

The availability of inexpensive Micro-Electromechanical Systems (MEMS) has made environmental sensing a common and inexpensive reality. Every modern cell phone or game controller is equipped with MEMS sensors to sense angular and spatial position and magnetic orientation. One result of the explosion of sensors is the concurrent development of inexpensive six and nine degree of freedom inertial navigation systems (6-DOF and 9-DOF INS). These inexpensive INS components have made it possible to build an inexpensive multi-rotor flying robot that can stably negotiate a three dimensional space. Applications for these devices abound from aerial photography, to remote sensing to automated transportation and construction. This Spring, a Manufacturing Systems Class at Madison Area Technical College (Madison College) designed, built, and flew a variety of multi-rotor vehicles to learn about this emerging technology and to assess the technology for potential application. The research was sponsored by the Madison Chapter of the IEEE with additional support from local companies interested in the technology. Tom Kaminski and students from the class will present the research results, followed by a demonstration of the devices.

Biography

Tom Kaminski is currently an Instructor in the Industrial Maintenance Department at Madison College teaching electrical, electronics, and automation subjects. His primary interest is automation systems with emphasis on instrumentation and control. Tom has over 40 years of engineering experience in instrumentation and digital systems and has spent the last 15 years as a teacher, helping technicians to understand the increasingly complex automation systems used in modern manufacturing.

IEEE Entrepreneurs & Consultants Network, Madison Networking Meeting

Date: **Thursday, June 6, 2013**

Time: 12:00pm to 1:00pm

Purpose: Presentation, topic TBD.

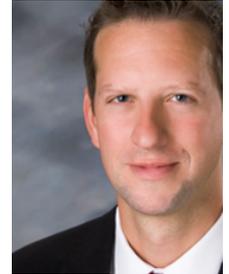
Location: **Sector67** (East Side of Madison)
2100 Winnebago Street
Madison, 53704

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. Bring your elevator speech and rolodex!

RSVP: Tim Chapman (PrettyGoodGUIs@TrueNym.NET), 608-206-2570

Implications of The America Invents Act: What “First-to-File” Means for Engineers



Date: **Thursday, June 20, 2013**

Time: 12:00pm - 1:00pm

Speaker: James Joyce, Patent Attorney
Whyte Hirschboeck and Dudek

Agenda: Informal networking will begin at 11:30am.
Presentation will begin at 12:00pm.

Location: Promega BioPharmaceutical Technology Center
5445 E Cheryl Pkwy, Room Number: 122
Fitchburg, WI 53711

Menu: Lunch meal provided: **for this month only, lunch is free for everyone!**

RSVP: Deadline: June 17. Go to: https://meetings.vtools.ieee.org/meeting_view/list_meeting/17734
to register. Please send questions or difficulties to CJ Gervasi at cj@cgervasi.com



Abstract

The American Invents Act was signed by the president on Sept. 16, 2011. On March 16, 2013, the biggest change brought about by this Act is America's conversion from a First-To-Invent system to a First-To-File system. Most of the world has maintained a First-To-File system from the outset, while the U.S. has traditionally resisted outside pressure to conform. It is imperative that inventors understand the various ramifications of this change and understand how they can take advantage of some caveats to the First-To-File system.

Biography

James Joyce is a patent attorney in the Madison office of Whyte Hirschboeck Dudek and is a member of the firm's Intellectual Property Law group. Mr. Joyce focuses his practice on patent law with technical expertise in the electrical, computer, software and mechanical fields. Prior to legal practice, Mr. Joyce worked for seven years as an engineering consultant. He has drafted patent applications for various electrical and mechanical devices, including wireless, mobile devices, as well as computer and software related applications; provided patentability, invalidity, and non-infringement opinions and analysis to clients from various industries; counseled clients regarding the application and protection of trademarks. He brings the following technical experience to his patent work:

- Programmable Logic Controllers (PLC) and ladder logic programming
- Building control systems
- Man to machine interfaces (MMI)
- Industrial controls, including Actuators, Sensors, Motors and Motor Drives
- Power distribution systems, including Switch Gear and Transformers
- Large scale computer and communication systems
- Backup power systems, including Stand-By Generators and Transfer Switches
- Fire alarm and notification systems
- Lighting control systems
- Security and PA systems
- Industrial Pumps, including centrifugal and Positive Displacement Pumps

SECTION Meetings

The third Thursday of Jan – May and Sep – Dec. is reserved for a meeting to provide recent research, developments, trends and/or innovations in one of our membership's technical areas.

NETWORKING Meetings

The first Thursday of even numbered months is reserved for a meeting to provide networking opportunities for members who are consultants or entrepreneurs. Bring your elevator speech and rolodex!

Section Meeting Schedule for 2013 (schedule subject to change)



January 17, Reference Models for e-Logistics
February 15, Engineering Ethics
March 13, Electric Vehicle Recharging
March 29, Engineering Ethics
April 18, Tour of MMSD Engineering Facility

May 16, Robots that Fly for Tech Education
by MATC Students (IEEE sponsored)

June 20, America Invents Act: First-to-File
by James Joyce

August 15, TBD
September 19, TBD
October 17, TBD
November 21, TBD
December 19, TBD

Talks in the Works for the Fall:

- More on filter design from CoilCraft
- Distinguished Lecturer
- Multispectral Imaging-Equipped Aircraft

Networking Meeting Schedule for 2013 (schedule subject to change)

February 7
April 4
June 6
August 1
October 3
December 5

Madison Metropolitan Sewerage District Tour

We are grateful to the Madison Metropolitan Sewer District (MMSD) for hosting our April meeting and giving us a tour of their facility, which focused on topics of interest to electrical engineers. We saw the room where power comes in and is distributed to pumps on the site. Much of the plant runs on 3-phase 480V. Some parts run on medium voltage.

We saw the main control room that shows the status of the pumps and tanks on site and around the greater Madison area. There are two repeaters that ensure that all sewage pumping stations can communicate wirelessly with the human machine interfaces in the control room without having large antennas at each sewage station.

MMSD showed us a video of some of the dirty aspects of sewage management. The MMSD site, however, including the tanks that separate out and digest solid waste, looked remarkable clean and orderly. They took our group on a walk over the tanks, and the smell was hardly noticeable. The tour took us through a tunnel between two buildings at the plant. At least one building had two sub-levels below ground. The sub-levels were filled with neatly color coded pipes and pumps.



SELECTION OF OFFICERS

At the December monthly meeting, the IEEE Madison Section conducts its annual officer elections prior to the Presentation. **Vote by 12/19.** Go to: voting.vtools.ieee.org.

JOB BOARD AREA (NEW!)

Check out www.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.



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IEEE Membership Level 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 (cj@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.

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IEEE Madison Section Newsletter

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Our members have professional interests in computers, power engineering, signal processing, communications, industry applications and a number of other technical fields

For more information, contact Mitch Bradt at 608-263-1085 or bradt@wisc.edu.

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