



# IEEE

# MADISON SECTION NEWSLETTER

**VOLUME 10, NUMBER 7**

*SERVING IEEE MEMBERS OF SOUTH CENTRAL WISCONSIN*

**OCTOBER 2007**

## Dane County Bomb Squad Robot Demonstration

**Date/Time:** Thursday, October 18, 2007, 11:45 - 1:00 PM  
**Speaker:** Dane County Sheriff's Office  
**Location:** Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444  
**Menu:** Pizza buffet, salad and soft drinks (cost \$10.00, free for student members)  
**RSVP:** by October 15th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

*Non-member guests are always welcome!*

Two deputies from the Dane County Bomb Squad will demonstrate and discuss their robot. The robot features three cameras and multiple-mission tool/sensor mounts with plug and play capabilities. The manipulator arm has seven degrees of freedom to ensure optimum dexterity. The articulated tracks enable the robot to climb stairs, obstacles and rough terrain. The robot can be controlled via three different data links—fiber optic cable, radio (wireless) or via a hard-tether cable. The robot was purchased in 2003 with a Domestic Preparedness Program grant.



## MATC Solar Collector Testing & Renewable Energy Education Programs

**Date/Time:** Thursday, November 15, 2007, 11:45 - 1:00 PM  
**Speaker:** Tom Kaminski, and Ken Walz  
**Location:** MATC Truax Campus, location & parking details to be determined...  
**Menu:** to be determined...  
**RSVP:** by November 12th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

*Non-member guests are always welcome!*

Tom Kaminski, and Ken Walz will present a short program at MATC on Solar Collector testing and Renewable Energy Education programs. Ken Walz is the Director of the Consortium for Education in Renewable Energy Technologies (CERET <<http://ceret.us/ceret>>) established in part by a \$500,000 National Science Foundation grant. Through CERET, MATC has developed a Renewable Energy Technology Certificate designed to give people interested in renewable energy a solid overview. All the courses are available online.

Tom Kaminski, an IEEE member since 1972, will talk about the Solar Thermal Collector testing program at MATC funded, in part, by a Wisconsin Focus on Energy grant to MATC and the Solar Lab at UW-Madison College of Engineering. The testing program developed a testing facility to test solar hot water collectors in Northern climates using ASHRAE 93 test methods in use at the Solar Ratings and Certification Corporation in Florida. In addition to testing solar collector performance, the grant developed new test methodologies that promise accelerated testing and testing in other than full sun conditions. A tour of MATC's solar test facility and other renewable energy sites (biodiesel, for example) will be available to those interested after the meeting.

## Capital Science and Engineering Fair

The Capital Science & Engineering Fair, or CSEF, is a regional high school science fair attracting students doing original science, technology, math or engineering research. CSEF will be held at the University of Wisconsin in Madison on Saturday February 16, 2008 and is open to high school students from Columbia, Dane, Dodge, Green, Iowa, Jefferson, Rock, and Sauk counties. CSEF Participants can also participate at the state science fair, the Badger State Science & Engineering Fair, to be held on Saturday March 15, 2008.

Students can enter research projects in nearly 20 categories ranging from animal sciences, biochemistry and medicine and health to computer science, engineering and physics, and astronomy. Student winners receive prizes and are funded to travel to the International Science and Engineering Fair, (ISEF) to be held in May 2008 in Atlanta, Georgia.

To participate, individuals or small teams define a research topic of their choosing and, working under the supervision of an adult, collect



## Upcoming 2007 Short Courses for Engineers and Other Technical Professionals

- **Managing and Estimating Software Projects**  
October 1–3, 2007 in Madison, WI
- **The Engineer in Transition to Management**  
October 8–10, 2007 in Madison, WI
- **Introduction to Right-of-Way for Utility Engineers, Technicians and Managers**  
October 16–18, 2007 in Madison, WI
- **Fundamentals of WiMAX Broadband Wireless Access Technology**  
October 22–23, 2007 in Madison, WI
- **Basic Telephony and Digital Switching**  
November 6–9, 2007 in Madison, WI
- **Understanding and Troubleshooting VoIP Networks**  
November 12–13, 2007 in Madison, WI

For further information...

Web: [epd.engr.wisc.edu](http://epd.engr.wisc.edu) or E-mail: [danbeck@engr.wisc.edu](mailto:danbeck@engr.wisc.edu)  
College of Engineering Department of Engineering Professional Development

## IEEE MADISON SECTION NEWSLETTER

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data and develop a poster outlining their results. Project can take a few months of dedicated effort so students are encouraged to start in early Fall 2007. If you know of a student who'd like to participate — encourage them to do so! Details about the CSEF can be found at: <http://allen.neep.wisc.edu/sciencefair/>. The expression of interest deadline is December 29, 2007 and the final application deadline is January 25, 2008.

The IEEE Madison section is proud to be a sponsor of the 2007 CSEF. If you are interested in supporting CSEF as a volunteer or judge, please contact the volunteer coordinator, Michael Hobbs ([michael.hobbs@invitrogen.com](mailto:michael.hobbs@invitrogen.com)). If you are interested in helping to reach interested students, please contact the Fair Co-Director, Dr. Todd Allen ([allen@engr.wisc.edu](mailto:allen@engr.wisc.edu)) at the University of Wisconsin.

## Message from the Chair

It is that time of year that we begin thinking about the upcoming activities of the IEEE. We have gotten off to a good start with our regular monthly meetings, following the academic year. Now, we, the board, are looking towards elections that take place in a few months as opportunities for continuing support and governance by our members, and we are considering how to put action to our goals and visions vis-à-vis the creation of a budget.

Below, I list our current fiscal status, with our recent income and expenditures detailed, with some explanation as to what the numbers mean. I would like to publicly acknowledge the tremendous and continuing work that John Hicks, our treasurer, has done in recent years that keeps our books up to date and has put us in a very strong position. Given that strong position, I propose some initiatives that have come forth in strategic visioning sessions held by the Vice-chair and myself, with the consultation of the Board.

Since the IEEE is your organization, we felt it appropriate to let you know how we are executing the mission of the Madison Section of the IEEE. Please review the statement and propositions carefully. I'll open the floor for discussion during the October meeting, immediately preceding our scheduled presentation. If you have any questions or would like to get involved with Section Leadership, please contact me at: [mmbradt@ieee.org](mailto:mmbradt@ieee.org).

Best Regards,  
Mitch Bradt, PE

According to our treasurer's report on Sep 10, 2007, we had the following assets in holding:

Local Bank Account	\$ 5,312.66
IEEE Concentrated Account	\$17,427.57
IEEE Long Term Investments	\$15,506.77
Petty Cash	(\$ 27.57)
<b>Total Holding</b>	<b>\$38,219.43</b>

Income year ending 9/10/2006	\$6,555.70
Expenses same period	\$5,816.32
<b>NET</b>	<b>\$ 739.38 (in the black)</b>

Income year ending 9/10/2007	\$5,702.99
Expenses same period	\$2,704.44
<b>NET</b>	<b>\$2,998.55 (more in the black!)</b>

In fact, we have had a net positive flow of cash into investments for more than four (4) years.

From prior records, it was typical that our annual expenses regularly exceeded \$5,500. One notes that our expenses dropped by half in the most current year. This can be mostly attributed to the transition from primarily delivering our newsletter via mail (~650 pieces mailed), to delivering most newsletters via IEEE's free e-Notice service, and only sending out less than 100 print newsletters. In addition we have garnered good revenue from advertisements in the newsletter.

Given that our annual expenses are either approximately \$2,700 (current year) or \$5,800 (previous year), we can see that our cash reserves is from 6.5 to 14 years of expenses. IEEE's guidance for financial management of sections and chapters recommends keeping a reserve of about 2-4 years of expenses, and even admonishes sections that keeping a higher reserve, while admirable in terms of frugality, represents a lack of delivered value that could have been provided to the sections' membership.

With this in mind, I think it appropriate to propose efforts that would deliver value to members and "spend down" the excessive reserves. I propose that we plan a "spend down" period of five years wherein we would spend \$3,000 more than our income each year and reduce our reserves to approximately \$20,000, which would be closer to IEEE recommended reserves. This would leave us still a bit conservative, in case our expenses/revenues related to the newsletter change for the worse.

**Typical Income in recent years:**

Rebate from IEEE Region 4	\$4,500.00
Interest & Dividends	\$ 500.00
<b>Total Typical Income</b>	<b>\$5,000.00</b>

**Typical Outlays from recent years:**

Meeting Costs	\$1,000.00
IEEE Students	\$1,500.00
IEEE Student Lecture Series	\$1,000.00
Board Expenses	\$ 500.00
Newsletter	\$1,000.00
<b>Sub-total</b>	<b>\$5,000.00</b>

**New Thrusts:**

Recognitions	\$ 500.00
Member Survey	\$ 700.00
Pre-college Education	\$1,800.00
<b>Sub-total</b>	<b>\$3,000.00</b>

<b>Total Proposed Expenditures</b>	<b>\$8,000.00</b>
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For details on the Strategic Vision and budgeting related to the New Thrusts, please contact Mitch Bradt at [mmbradt@ieee.org](mailto:mmbradt@ieee.org). Copies will be available at the October meeting.



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## Press Release — EMC Design Techniques

Earn Professional Development Credits (PDH's) by attending this four-day seminar/workshop that applies EMC design fundamentals to real-life situations. You will learn how to design your product to pass compliance testing, thereby eliminating costly last-minute changes. Donald L. Sweeney and Roger Swanberg, with over 75 combined years of experience in the field of EMC, now bring these EMC design fundamentals to life through hands-on, practical application to real life products. Participants will receive a free copy of the proprietary computer program designed by the instructors to solve the most complex EMC issues. Participants may bring a product of their choice for a free 45-minute individual consultation, during which they will have the opportunity to apply the concepts they have just learned. Special pricing in effect until September 25, 2007.

*EMC By Your Design*

*An EMC Practical Applications Seminar/Workshop*

*with take-home computer programs*

*October 25-26 & 29-30, 2007*

*Hilton Hotel, Northbrook, IL*

To register call Carol at 847-537-6400 or email her at cgorowski@dlsemc.com. For more information visit [www.dlsemc.com/class301.htm](http://www.dlsemc.com/class301.htm).

(If you cannot attend this class, the next one will be April 2007)

Submitted by Marilyn Sweeney

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1/16 Page (3.5 x 1.125)	\$ 53	46	42	40
1/8 Page (7 x 1.125 or 3.5 x 2.25)	82	74	68	67
1/4 Page (7 x 2.25 or 3.5 x 4.5)	129	118	112	110
1/2 Page (7 x 4.5 or 3.5 x 9)	205	192	185	183
Full Page (7 x 9)	330	315	306	303

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