IEEE Madison Section Newsletter

Volume 10, Number 4 — Serving IEEE Members of South Central Wisconsin — April 2007

## Joint meeting with IEEE Entrepreneurs Network Affinity Group
## High Technology Business Speak for Engineers - Legal Issues

**Date/Time:** Thursday, April 19, 2007, 11:45 - 1:00 PM
**Speaker:** Joseph W. Boucher, Neider & Boucher, S. C.
**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 April 16th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

*Non-member guests are always welcome!*

Mr. Boucher will discuss the legal issues that arise along the time line from business idea to exit. Legal issues such as intellectual property protection, business and domain names and what entity to choose will be addressed. In addition, there will be a brief discussion of fiduciary duty and governance.

Joseph W. Boucher is a founding shareholder of the Madison law firm of Neider & Boucher, S.C. Mr. Boucher is also a Certified Public Accountant. Mr. Boucher is a co-drafter of the original Chapter 183 for LLCs, the amendments to Chapter 183, the Next Economy Legislation of 2002, and the limited liability partnership law. He is a co-author of Organizing a Wisconsin Business Corporation and the LLC's and LLP's: a Wisconsin Handbook. He co-authored an article in the September 2005 Wisconsin Lawyer, Vol 78, no. 9, on the Gottsacker case; the first Wisconsin case on limited liability companies.

For more information see http://www.neiderboucher.com.

## Simulating Wisconsin's Future Electric Resources

**Date/Time:** Thursday, May 17, 2007, 11:45 - 1:00 PM
**Speaker:** Paul Meier, PhD, University of Wisconsin Energy Institute
**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 May 14th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

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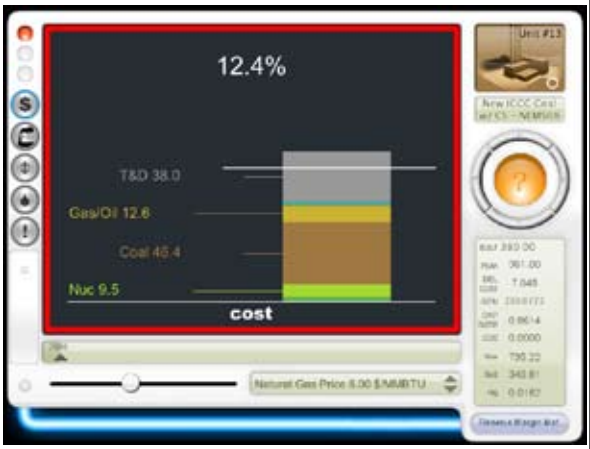


Paul Meier will use the MyPower simulation tool to discuss alternatives for satisfying Wisconsin's future electric demand, while considering impacts on greenhouse gas emissions, conventional pollutants, electric reliability and customer costs. MyPower is an electric utility production simulation which uniquely blends research, education, and public outreach. The web-based program simulates electric generation resource planning, evaluating existing and proposed technologies (e.g., base-load power plants, intermittent renewables, energy efficiency, pollution controls), while providing continuous feedback on the system cost and compliance with emission limits, portfolio standards, and planning reserve margins. A game-like interface creates entertaining educational opportunities, while the possibility of networking many users may uniquely enable detailed research of national energy policies.

Paul Meier is the director of the Energy Institute at the University of Wisconsin - Madison. The Institute works to comprehensively address energy issues by fostering interdisciplinary research; organizing education and outreach programs, and developing state, national and international collaborations. Paul's research focuses on integrated resource planning and climate change policy for electric utilities. Paul has worked with industry, government, and public interest groups on energy and environmental issues since 1995. He received a B.S. in Civil Engineering from Purdue University, an M.S. in Environmental Systems Engineering from Clemson University, and a Ph.D. through the Nelson Institute for Environmental Studies at UW - Madison.

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## What IEEE Membership Means to Me

*By Liz Morel*

I have found that the most important benefit of IEEE membership may be summed up in one word: networking. Through volunteering with committees, I have been able to network with engineers and non-engineers alike. This aspect of IEEE membership has been important to support both my transition from college to a professional job in a new city far from home, and to fuel my passion for engineering and public policy.

Working with IEEE-USA has helped me to learn the importance of science and technology (S&T) policy. It is difficult for the engineer with no formal S&T policy training to be cognizant of the actions taking place on Capitol Hill. However, IEEE-USA not only educates and conveys information to U.S. members about legislative matters of interest to engineers, it also represents the interests of the IEEE's U.S. members to Congress.

The research lab or the engineering design firm can seem worlds away from Capitol Hill, but decisions made by politicians can have a significant impact on the ability of research institutions and businesses to innovate and to be competitive on a global scale.

To aid the career development of members who wish to become further involved in S&T policy, IEEE and IEEE-USA connects its members with intern and fellowship positions, and provides volunteer opportunities through its many boards and committees. I have personally benefited from these programs, because through volunteering with committees, I have been able to network with engineers and non-engineers alike.

IEEE is really here for its members, and there are many opportunities to both gain experience and contribute to your professional organization.

All you have to do is ask!

*Liz Morel is a member of IEEE-USA's Communications Committee, and IEEE-career policy for IEEE-USA Today's Engineer. Comments may be submitted to todaysengineer@ieee.org.*

## Preview Online IEEE-Backed, Engineering-Based Reality PBS TV Show, Design Squad

*By Pender M. McCarter*


The first of 13 episodes of a new IEEE-backed engineering-based reality TV show, Design Squad, was shown as a "sneak preview" on selected local public television stations nationwide during National Engineers Week, 18-24 February.

The first PBS program on "The Need for Speed" can now be viewed online at <http://www.pbskids.org/designsquad>.

Intended for youngsters in the critical "tween" age group of 9 to 13, the series is part of a national, multimedia initiative designed to pique interest — especially among girls and minorities — in engineering concepts and challenges, such as designing an alarm that can be turned on and off and is small enough to hide. Design Squad will air on many PBS stations in the United States following local pledge weeks in March and April.

To find local PBS stations and listings, go to <http://pbskids.org/tvschedules/localizer.html?dest=/designsquad/show/index.html&nola=DESQ&station>.

Major funding for the program is provided by the National Science Foundation and the Intel Foundation. Additional funding is provided by the IEEE, the American Society of Civil Engineers, Tyco Electronics and others.

Design Squad features two teams of real-life high-school students (in collaboration with two 20-something engineer hosts) who use their problem-solving skills to design, construct and test engineering projects. The projects include a machine that automatically makes pancakes and (in the first episode) a motorized red wagon that can reach speeds up to 20 miles per hour.

In the first episode, the red and blue teams are challenged to turn the wagon into a dragster using drills as a motor. The teams engage in brainstorming, designing and building, redesigning and building, and finally testing and evaluating.

During Design Squad, key engineering and science concepts are illustrated through dynamic animations. The design process guides teammates as they take on every engineering challenge. And problem-solving "habits of mind," such as learning from failure and drawing simple models to communicate ideas, are tools the youngsters adopt as they construct their machines.

Design Squad also includes a Web site that provides behind-the-scenes information, games and descriptions of the program's engineering challenges and solutions, plus an e-zine that highlights the role of engineers in society. The first e-zine, now online, includes articles on women in the field of car design, alternative fuels, and a video on the designer of a high-speed bio-diesel powerboat.

In addition, Design Squad incorporates an outreach campaign to bring the program to local communities. WGBH is partnering with engineers and informal educators nationwide to deliver activities to schools, after-school programs, museums and local malls.

Engineering challenges that youngsters can try at home include the rubber band car, a kinetic sculpture and the hidden alarm. On Saturday, 17 February, several thousand preteens, "tweeners," teenagers and adults gathered at the National Building Museum in Washington to participate in EWeek Family Day, featuring hands- and minds-on engineering activities, including the Design Squad engineering challenges.

IEEE President Leah Jamieson, IEEE Educational Activities Vice President Moshe Kam and IEEE-USA President John Meredith have endorsed the PBS program for promoting technological literacy and bolstering engineering awareness. Meredith participated in an Intel training event early in January and is encouraging U.S. IEEE members to urge their local PBS stations to air Design Squad, as well as to participate in local outreach activities through IEEE School Clubs. IEEE-USA is sponsoring a "train-the-trainer" session for U.S. IEEE members and others later in the year.

Kristi Brooks, an IEEE member in West Fargo, N.D., is the IEEE-USA Design Squad volunteer coordinator. Brooks is employed by a consulting firm that provides industrial automation for various manufacturing facilities in the Midwest. She praises the program for the way in which it highlights the design process, adding: "Design Squad shows the kids trying a design and failing, but seeing other kids test and have their design fail on the first try shows that it's normal."

Brooks continues: "Parents, especially those who do not come from a technical background, don't necessarily know how to encourage their

kids when it comes to math and science activities. Design Squad will be a wonderful opportunity for both parents and their children to see some real engineering that can be easily understood." Noting that her own sixth-grade son's teacher has viewed portions of Design Squad and plans to show episodes during her science class, Brooks encourages U.S. IEEE members to tell middle-school teachers about this new opportunity.

Reflecting on how she became an engineer, Brooks recalled: "I was lucky to have a teacher in high school who encouraged me to enter the engineering field… When I announced I was going to go to school for Electrical Engineering, I was immediately asked what an 'EE' does… A program such as Design Squad would have introduced me to the different types of engineering and the problem solving process. It would have shown me early on that engineering is involved in so many areas of every day life."

Brooks concluded: "Seeing a female engineer host on the show would have also been a bonus. There are still so few female engineering students in the classroom."

For more information on how you can support and participate in Design Squad, go to <http://www.pbskids.org/designsquad>.

A limited quantity of Design Squad event guides for use with youngsters in community activities is also available through IEEE-USA by sending an e-mail request to <p.mccarter@ieee.org>.

*Pender M. McCarter, APR, Fellow PRSA, retired in 2006 from his post as IEEE-USA's director of communications and public relations. He has been an editor and association executive in high-tech communications for more than 30 years, and in 2007, he will continue to consult with IEEE-USA part time on engineering public awareness. Comments may be submitted to todaysengineer@ieee.org.*





WHAT'S INSIDE


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