IEEE Madison Section Newsletter

Volume 9, Number 9 — Serving IEEE Members of South Central Wisconsin — December 2006

Joint meeting with IEEE Entrepreneurs Network Affinity Group
High Technology Business Speak for Engineers

Date/Time: Thursday, December 21, 2006, 11:45 AM - 1:00 PM
Speaker: Kevin J. Kelbel, CPA, MBT, Smith & Gesteland
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 December 18th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

Smith & Gesteland LLP
Certified Public Accountants & Business Consultants
Not The Same Old Bottom Line

Non-member guests are always welcome!

Whether you are involved with a high technology business from the standpoint of a founder, employee, investor, customer or service provider, it is important to be aware of the critical aspects of the business. Essential to this goal is to understand these criteria from a business perspective and how that interacts with your involvement in the business. An understanding of the key factors of success will better enable you to add value to the enterprise.

While the successful launching and growth of a technology business requires several key factors, the primary early factor is planning and understanding what it will take to meet the company objectives. While these objectives may change as the business evolves and your market takes shape, the enterprise needs to have a plan of action. As the saying goes, "those that fail to plan, plan to fail".

As the high technology sector takes on a growing importance in the business economy of Wisconsin we will discuss the needs of such businesses, the factors they need to consider in growing a successful business, funding options and how the Wisconsin marketplace is adopting to meet these needs. Our discussion will give you a better understanding of the needs of technology based businesses and better position you to meet these needs.

Kevin Kelbel received his undergraduate degree in accounting from Viterbo University and his Masters in Taxation from the University of Minnesota. He spent seven years with the international accounting firm of KPMG Peat Marwick in their Minneapolis office and joined Smith & Gesteland, LLP in Madison in 1994. Kevin has served high technology businesses for the majority of his career and is very active in the development of the high technology economy in Wisconsin.

High-Resistance Grounding and Ground Fault Protection

Date/Time: Thursday, January 18, 2007, 11:45 AM - 1:00 PM
Speaker: Tony Locker, P.E., I-Gard
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 January 15th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.224.0664

GARD

Non-member guests are always welcome!

As Power Reliability and Arc Flash Hazards become more prevalent in the next decade and beyond, High Resistance Grounding (HRG) systems have become the grounding system of choice by many professionals. Once only used in Industrial applications, HRG systems have flourished in other markets, such as commercial and institutional. However, they are not perfect systems. This presentation will discuss why HRG systems were first developed and how modern relays are helping an almost 50 year old practice solve today's challenges.

Tony Locker received a BSEE from Rose-Hulman Institute of Technology and a MSEE from Georgia Institute of Technology. He is presently Director, Business Development with I-Gard, Cincinnati, Ohio, where he is responsible for providing technical seminars and application assistance on resistance grounding and ground fault protection in the USA. Prior to joining I-Gard in 2005, he was Vice President - Engineering with Post Glover Resistors. Previously, he was Director of Engineering at Power Engineering Technology. His

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background includes leading design teams and managing installations of numerous multi-million dollar control and power systems for data centers, industrial plants, cogeneration facilities, and utilities. Before Power Engineering Technology, he was a R&D engineer for Square D Company.

Mr. Locker is active in the Industry Applications and Power Engineering Societies of IEEE, where he serves on several Subcommittees and Working Groups, as well as NSPE. He is a registered Professional Engineer in Ohio and has two patents.

More info on Resistance Grounding can be found at: <http://www.i-gard.com/technologyinfo.htm>.

IEEE Backs New PBS Engineering Reality TV Show for Youngsters Ages 9 to 12

By Pender M. McCarter

The IEEE is providing major funding for a new PBS engineering reality competition television program, "Design Squad," intended to introduce students to engaging, real-life applications of engineering concepts and to present engineering as a creative, productive career. The live-action series, aimed at 9- to 12-year-olds, borrows from the popular TV reality competition format. The brainchild of the producers of ZOOM, "Design Squad" premieres the first of its 13 episodes on PBS stations nationwide during National Engineers Week 18-24 February 2007.

In addition to the weekly program, "Design Squad" will include a Web site, e-zine and engineering outreach campaign. The IEEE will be recognized for its contribution in announcements at the beginning and end of each program, and the organization's name will be included in materials distributed electronically as well as in the outreach campaign to teachers and students. IEEE participation in the program will complement the organization's ongoing educational outreach efforts through Engineers Week, the Teacher In-Service Program, TryEngineering.org, and Women in Engineering. The program will be seen in Canada, be available on the digital "Go" channel for students, and be accessible on the Web in streamed video, and will include some educational materials in Spanish.

Over 13 episodes, two teams of high school students (ages 16–19) design, build and test whimsical machines and innovative products — everything from a wireless light and dance show to an automatic pancake maker — for real clients. Guided by two engineer hosts (a male and female twenty-something duo), "Design Squad" teams are scored for their ability to think outside the box and meet (or surpass) the demands of the challenge at hand.

While the challenges the youngsters face are intended to be light and entertaining in order to capture the target audience's attention, "Design Squad" consists of three interrelated strands: content areas, the engineering design process, and problem-solving habits of the mind. Each episode will explore one or more aspects of five content areas: communication, manufacturing, construction, transportation and bioengineering technologies.

In the final episode, the top two scorers battle for the Grand Prize: a $10,000 college scholarship from the Intel® Foundation. To make

real-world connections for viewers, improve the public image of engineering, and inspire students to believe that engineering is accessible to them, each "Design Squad" episode profiles a real engineer, while the program's Web site looks behind the scenes, offering games, video clips and an e-zine highlighting the role of engineers in society.

The PBS television show is accompanied by an outreach campaign to increase students' awareness, curiosity, and knowledge of engineering, and to dispel common myths about engineers. "Design Squad" will host events with public television stations, after school programs, museums, and other partner organizations across the U.S. Special event and educator guides will teach informal educators and volunteer engineers how to engage and excite students with hands-on engineering activities. To support "Design Squad's" educational outreach, on 9 November, IEEE Educational Activities and IEEE-USA volunteers and staff participated in a summit at the National Academy of Engineering in Washington, D.C.

Marisa Wolsky, "Design Squad's" executive producer, states: "Our goal is to dispel some myths about engineers — that they're boring, or that they're all men. In fact, our goal is to convey that engineers have the coolest jobs: they get to imagine the future and design for it." Kate Taylor, who has overseen several science series at WGBH, including the Emmy Award-winning "ZOOM" and "Peep and the Big Wide World," adds: "As we have done with many of our series, we're taking a TV format that kids love and injecting it with meaningful content. We know from past experience that this is a great way to get kinds excited about a subject they had never before considered appealing."

For more information on the IEEE's involvement, contact IEEE Educational Activities Doug Gorham at d.g.gorham@ieee.org or IEEE-USA's Pender McCarter at p.mccarter@ieee.org. To view sample programs, visit the "Design Squad" preview Web site at http://pbskids.org/designsquad.

Pender M. McCarter, APR, Fellow PRSA, is IEEE-USA's director of communications and public relations, and has been an editor and association executive in high-tech communications for more than 30 years. Comments may be submitted to todaysengineer@ieee.org.

World Bytes

By Terrance Malkinson

• A new approach to innovation called design thinking is opening up new business opportunities and attracting the attention of corporations around the world. In "The Talent Hunt: Best Design Schools" (BusinessWeek; #4004, pp. 64-72, 2006, www.businessweek.com) Jessi Hempel and Aili McConnon discuss this approach and provide a listing of the top design programs in the United States; and a second listing of top European and Asian design programs. Hempel and McConnon view this approach as a new source of competitive advantage, and that many corporations "are looking beyond traditional sources of leadership to a new set of schools and programs to find innovative managers."

• It is often difficult to get people to alter the way they do things. In "The New Science of Change" (CIO, 19(23), pp. 55-66, 2006, www.cio.com) Christopher Koch describes research that is helping to reveal why it is so hard to affect change and suggests strategies to make implementing change easier. He provides ten change management rules.

IEEE Madison Section Elections

At the December 2006 monthly meeting, the IEEE Madison Section will conduct its annual officer elections prior to the technical presentation. The positions include chair, vice-chair, secretary, treasurer, and multiple member-at-large positions. Job descriptions can be found online at <http://www.ieee.org/web/geo_activities/rab/scs/Resources/Officer_Training/job-desc.html>. Nominations may be made by telephone or via e-mail to the Chair (263-1085, mmbradt@ieee.org). Additional candidate nominations are welcome and encouraged for all positions. The nominations to date include:

Chair:	Mitchell Bradt
Vice-Chair:	Ken Hartman
Secretary:	Les Schroeder
Treasurer:	John Hicks
Mem. at Large:	Clark Johnson

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