

## Calendar of Events

### Upcoming in March

- Tues. March 10, 7:00pm**  
[Executive Committee](#)  
IEEE-Chicago Section
- Tues. March 10, 7:00pm**  
[Cognitive Radio](#)  
Communications
- Wed. March 11, 5:30pm**  
[Sunrise Powerlink](#)  
Power & Energy
- Thurs. March 12, 7:30am**  
[NetSecure09](#)  
Fox Valley
- Wed. March 18, 5:30pm**  
[Electrical Testing for Scada](#)  
Industry Applications
- Wed. March 18, 6:00pm**  
[Measurement Uncertainty](#)  
Electromagnetic Compatibility
- Wed., March 25, 6:00pm**  
[Nuclear Power](#)  
IEEE Fox Valley
- Sat., March 28, 6:30pm**  
[Awards Dinner Dance](#)  
IEEE-Chicago Section
- Mon., March 30, 6:45pm**  
[Emerging Energy Technologies:](#)  
[PLCs in 21<sup>st</sup> C](#)  
Consultants' Network
- Upcoming in April**
- April 15&16**  
[Magnetics Conference](#)  
Electromagnetic Compatibility

Email upcoming events to [Pat Hutson](#) for inclusion on the IEEE-Chicago [website](#) calendar and to [Michele Beaulieux](#) for inclusion in the e-Scanfax calendar.



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**OPEN HOUSE** March 19, 5:30 - 7:30  
**Master of Product Development**  
Northwestern University  
2133 N. Sheridan Road, Evanston, IL

### This Month's Articles

#### Chair's Corner: Chicago Section Recognizes Distinguished Members

March 28 Dinner Dance provides opportunity to mingle with awardees and Section leaders. [\[more\]](#)

#### New Fellows To Be Honored at Dinner Dance on March 28

Hear from the new IEEE Fellows—**Nicholas Buris, Lih-Tyng Hwang, Ashfaq Khokhar, and Kenneth Zdunek**—at the Chicago Section's Annual Awards Dinner. [\[more\]](#)

#### IEEE Members Eligible for Discounts on Conference Registrations

**NetSecure09: IT Security and Forensics Conference and Expo** on **March 12** and the **Magnetics Conference** on **April 15 and 16** are cosponsored by IEEE entities. [\[more\]](#)

#### Engineers Encouraged to Provide Input on Stimulus

**Russell Harrison** of **IEEE-USA** provided tips and perspectives on influencing policy decisions in Washington D.C. at the January **Career Networking Group** meeting. [\[more\]](#)

#### EMC Chicago Encouraging EMC Careers

At the February meeting of the **Chicago Chapter of the Electromagnetic Compatibility Society**, there was pizza, a talk of EMC careers, and the announcement of the Chapter's third scholarship. [\[more\]](#)

#### Chair's Corner: Chicago Section Recognizes Distinguished Members



Our chosen profession provides many opportunities for engineers to make contributions that have a lasting impact on technology, society and the engineering profession. For nearly a century, the [IEEE Awards program](#) has paid tribute to these individuals through institute and section awards. Each award has a unique mission and criteria and offers the opportunity to honor distinguished colleagues, inspiring teachers, and corporate leaders.

The IEEE-Chicago Section sponsors awards for **Distinguished Mentor, Distinguished Service, Outstanding Member, and Corporate Friends** of the section. And each year, the Section holds a banquet to honor the individuals from the Section who deserve recognition. This year's **Awards Dinner Dance** on **March 28** will include recognition for four IEEE-Chicago members who have been elevated to **Fellow**. The Dinner is an opportunity to celebrate the contributions and impact of our members, to meet the award recipients, and to learn more about the work being recognized. Come, learn more about your professional organization, meet other engineers, and enjoy an evening of good food and music. I look forward to spending some time with you in an informal setting.

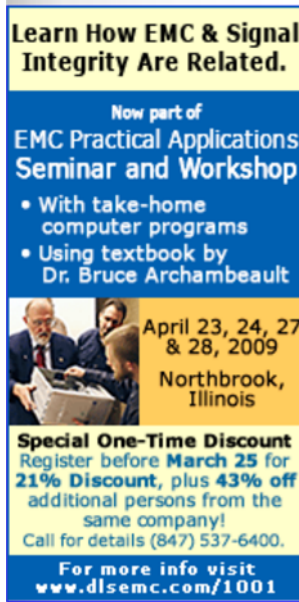
Congratulations to all the award recipients. And thanks to all of you who nominated peers for recognition. You are a vital part of the Chicago Section and essential to our continued success.

**Bernard Sander, Jr.**  
Chair, IEEE-Chicago Section

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## Three New Fellows To Be Honored at Dinner Dance on March 28



Zdunek was recognized for his work on this iDEN voice and data handset

When you're browsing the internet on your cell phone and you get a call, you can answer it. While that capability may seem simple and straightforward, sophisticated electrical engineering made it so. Thank new IEEE Fellow and Chicago Section member **Kenneth J. Zdunek**. Think back to analog phone lines, which were capable of either handling a voice discussion or internet access, but couldn't accommodate both simultaneously or switch between the two. Solving that switching challenge for wireless communications is one of many that earned Zdunek his citation

"for leadership in integrating voice and data communications in networks."

And, when you're wowed by the smaller sizes and increasingly reasonable prices of the most recent generation of cell phones, thank another new IEEE Fellow from the Chicago Section, **Nicholas E. Buris**, who was cited "for contributions to electro-magnetic design automation and multidisciplinary optimization of complex wireless communications problems." Nick and his team at **Motorola** developed and implemented smart antenna systems for the transmitting base station towers and the receiving cell phones and other subscriber devices. A key element in "4<sup>th</sup> generation communications systems," these antennae capture the available signal energy from their environment at less expense and space while maintaining or improving performance than previous iterations.

And, looking into the future, when you will be able to search databases for images and audio as well as text, stop and thank another new Chicago IEEE Fellow from the class of 2009: **Ashfaq Ahmad Khokhar**. Cited "for contributions to multimedia computing and database systems," Khokhar will enable us to find all the archival video footage available of Michael Jordan doing a slam-dunk in the NBA finals or recordings of a song for which we can only hum the tune. Today, a text-based search of video and song titles could easily miss the gems we seek, but tomorrow, when Khokhar's research enters everyday usage, we'll be able to find what we're looking for in the nonverbal realm.



Ashfaq Ahmad Khokhar

All three Fellows will be on hand to accept congratulations and illuminate the particulars of their work at the IEEE-Chicago Section Dinner Dance on **Saturday, March 28th** at the White Eagle Restaurant in Niles, Illinois. The fourth new Fellow from the IEEE-Chicago Section, **Lih-Tyng Hwang**, cited "for contributions to system-in-a-package technologies" will be sending his remarks.

The grade of Fellow recognizes unusual distinction in the profession and is conferred by the IEEE Board of Directors upon a person with an extraordinary record of accomplishments. IEEE Fellows have contributed importantly to the advancement or application of engineering, science and technology, bringing significant value to society. Recalling when he learned that he had been elevated to Fellow, Zdunek reports, "I obviously felt honored and also surprised. I was humbled from the standpoint that what I had been working on for many years got recognition and support in a bigger community. And afterwards when I found out the people who supported me, I was thrilled that my work was recognized by people I look up to."



Kenneth J. Zdunek

Khokhar said, "It's an accomplishment for me, my department and my family, too. Coming from a developing country like Pakistan and reaching to this level is a great thing for me. It says a lot about the opportunities that are available in this country for people of all walks of life."



Nicholas Buris, one of four Chicago Section members in the 2009 Class of IEEE Fellows.

And Buris, who admits to being a bit cynical, admitted that the day he found out “was one of the happiest days of my life professionally. I was stunned,” he said.

In addition to honoring the Fellows, the IEEE-Chicago Section will also confer its own Annual Awards, including **Outstanding Member of the Chicago Section Award, Distinguished Service Awards, Distinguished**

**Mentoring Awards, and Friends of the IEEE-Chicago Section**, at the dinner dance. The festivities start at 6:30pm with dinner served at 7:30 pm, Awards at 8:30pm, and music and dancing at 9:00pm. Space is somewhat limited, so register before March 21<sup>st</sup> to reserve your spot and save: \$45 per person, \$85 per couple, \$25 per student, and \$35 per IEEE life member. Afterwards, \$55 per person, \$100 per couple, \$35 per student, and \$40 per life member. To register, contact Connie Kelly at 847-297-6610 or [email](#). Don't miss this unique opportunity to meet and congratulate the honorees and network with your peers!

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### IEEE Members Eligible for Discounts on Conference Registrations

Two upcoming industry conferences in March and April are offering significant discounts to IEEE members. The **IEEE Fox Valley Subsection** is co-sponsoring **NetSecure09: IT Security and Forensics Conference and Expo on Thursday, March 12, 2009** at **Illinois Institute of Technology** in Wheaton, Illinois. This multi-track technical conference is expected to attract over 200 IT professionals and will promote the open exchange of IT security and forensics information. IEEE members can receive a discounted rate of \$75 by typing “Society” when registering at the conference [website](#).

The **Magnetics Conference**, the premiere forum on magnetic applications, technologies and materials, at the **Marriot O'Hare on Wednesday and Thursday, April 15 and 16, 2009**, is also offering discounted registration of \$795 to IEEE members who use their ieee.org email address when registering before March 6 and using the source code “MAG\_SO” at the conference [website](#). A supporting organization for the conference, the **Chicago Chapter of the Electromagnetic Compatibility Society** is offering a pre-conference workshop.

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### Engineers Encouraged to Provide Input on Stimulus

Contrary to popular belief, politicians really do want to hear from you, and it doesn't take much effort to influence the political process significantly. That was the bottom line message **Russell Harrison**, Senior Legislative Representative for Grassroots Activities at [IEEE-USA](#), gave assembled IEEE-Chicago Section members on January 28<sup>th</sup>. IEEE-USA, which IEEE members in the United States support through their dues, is the U.S. lobbying arm of the Institute of Electrical and Electronics Engineers. The meeting, sponsored by the **IEEE-Chicago Section Career Networking Group**, took place before the stimulus package passed, and subsequent events proved Harrison correct in many of his predictions. For example, the legislation was indeed on **President Obama's** desk on Presidents Day.



Russell Harrison speaks with members before his presentation.

Harrison gave political perspective into various provisions of the proposed legislation, and the engineers in attendance offered technical insights. Topics ranged from high skill visa reform to nationwide broadband deployment to computerized healthcare records management to smart grid and alternative energy development. The discussion made clear that engineers' input into technology expenditures is essential if the money is to be used wisely.

And encouraging engineers to become involved in the political process was Harrison's ultimate objective. A lobbyist such as himself represents other people's opinions to Congress, but the truth is, the politicians would rather hear directly from the voters in their districts. A study showed that while a visit from a lobbyist had a 15% chance of significantly influencing a policy decision, a visit from a constituent had a 60% chance. At 44%, a personal (as opposed to form) letter from a constituent even had a greater probability of significantly influencing a legislator than a visit from a lobbyist. And those letters don't even have to be snail mailed. In fact, Harrison said that, after the Anthrax scare, members of congress prefer email. You can find and email your senators and representatives by entering your address at [Congress.org](http://Congress.org).

Harrison walked the attendees through the process that an email goes through. Initially, an intern or junior staffer reads emails, sorts them into issue folders, and sends a response. A half a dozen emails make an issue significant enough for a senior staffer to review to consider how to vote. Harrison concluded, "Chanting in unison greatly increases the chances of being heard," and with such a low number threshold, that's not difficult to do.

IEEE-USA develops position papers on current issues and is sponsoring a Careers Congressional Fly-In on March 23 and 24; Science, Technology, Engineering and Math Congressional Visits on April 28 and 29; and an Energy Fly-In on June 15 and 16. All IEEE members are encouraged to attend. The first day of each event is orientation and the second consists of visits with your senators and representatives, which IEEE-USA representatives arrange.

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### EMC Chicago Encouraging EMC Careers

"How's the job market out there?" That's the question **Roy Leventhal** of [Leventhal](#)

[Design & Communications](#) asked at the start of his presentation on **Electromagnetic Interference – Electromagnetic Compatibility (EMI-EMC) Engineering Careers on February 18**. Then, he told the over 35 engineers who filled up a classroom at **DeVry University** in Addison about a specific company looking for engineers. "There's stuff out there," he concluded, "especially if you can contribute to EMI-EMC." Why? Because EMC is critical for market success. "If you can't pass regulatory," Leventhal said, "you can't sell your product."

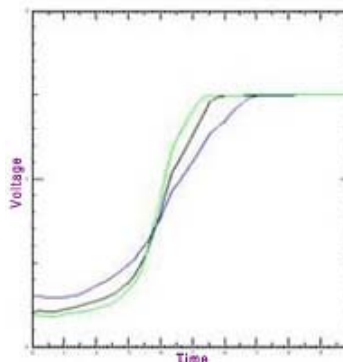


Roy Leventhal

With circuit design demanding more speed, functionality, and complexity while also facing more EMI and environmental stress, EMI-EMC engineers find performance standards rising. Their ace-in-the-hole is that manufacturers need Signal Integrity (SI), Power Integrity (PI), and EMI-EMC, and the constant technical change creates fresh opportunities. As a result, there will always be a need for EMI-EMC engineers.

By Leventhal's assessment, good EMC engineers can attribute only 40% of their success to their technical knowledge and engineering skills but 60% to their social skills. The ability to work as a team is particularly crucial for EMC engineers because they are often invited to the table late in the game. This can be frustrating because early in a project, there are many degrees of freedom; late in a project, options, time, and money are limited. Leventhal does see debugging of circuit boards moving from the bench where testing can cost \$7,000 a day to computer models. He encouraged EMC engineers not to play police officers reinforcing **Federal Communications Commission (FCC)** and **Federal Trade Commission (FTC)** regulations but to be proactive problem solvers.

Leventhal walked through a number of problem solving examples, including a situation in which a lack of complete information gave misleading results on the testing of a circuit board controlling the communications switching array on an internet server. The Input Output Buffer Information Specification (IBIS) standard of the **Electronic Industries Alliance (EIA)** only mandates that a user provide the tester with the slew rate, which is the rate of change of voltage ( $dV/dt$ ), but that data showed the switch turning on and off faster than it actually does. The voltage versus time (V-T) curves are not required, but revealed that the switch does not create significant "noise" because it turns off and on very gently. As **Albert Einstein** said:



"Everything should be as simple as possible  
and no simpler."

The V-T curve shows a gradual, rather  
than abrupt, transition.

The Chicago EMC Chapter is encouraging the next generation to explore EMC-EMI as a profession in a couple of different ways. To help lure DeVry students to the evening's presentation, pizza was served before the formal presentation began. And, the Chapter has been sponsoring scholarship for students studying an EMC-related field such as electronics, electrical engineering or physics. At the meeting, Chicago EMC Chapter Treasurer **Bob Hofmann** announced the third winner of the Chapter's scholarship. **Louann Devine**, a graduate student at **University of Illinois-Chicago**, won \$1000 toward her tuition. The Chapter is awarding two scholarships a year: one in the spring and one in the fall. The first scholarship, in the spring of 2008 went to **John Stushek** also of the **University of Illinois at Chicago** and the second went to **Sameer Parikh**, a graduate student at **Northern Illinois University**. Students interested in applying for future scholarships should contact [Hofmann](#).

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Address corrections:  
[IEEE Membership](#)  
440 Hoes Ln.  
Piscataway, NJ 08854-1331

[IEEE Chicago Section](#)  
Mail and Delivery: 335 E. Geneva Road PMB # 389  
Carol Stream, IL 60188  
Voicemail: 630.493.4333

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