

Powering Toward the Future
2008 IEEE PES TRANSMISSION AND DISTRIBUTION CONFERENCE AND EXPOSITION
April 21-24, 2008
McCormick Place North
Chicago, Illinois
 For more info: www.ieeet-d.org

Calendar Of Events

This Month

March 11, 6:15pm
[100 Gigabit Ethernet](#)
 UIC @ Tellabs

March 11, 7:00pm
 Executive Committee
 DeVry - Addison
 Chicago Section

March 12, 5:30pm
[Transmission Planning for Wind Integration](#)
 Power Engineering

March 19, 5:30pm [New Trends in Lighting](#)
 Industrial Applications

March 26 [NetSecure08](#)
 Communications Society

Upcoming

April 5 [The Entrepreneurial Mind](#)
 Chicago Section PACE

April 21-24 [Powering Toward the Future](#)
 Power Engineering

This Month's Articles

Chair's Column: Nominate! Nominate! Nominate!

An appeal to nominate deserving IEEE members. [\[more\]](#)

Upcoming events of note

[NetSecure08: The 6th Annual Systems and Network Security and Digital Forensics Conference and Expo](#) Online registration is open. The conference, which will be held **Wednesday, March 26, 2008**, is co-sponsored by the **Chicago Chapter of the IEEE Communications Society**.

Could You Be An Entrepreneur? Come to a PACE [seminar](#) on **April 5th** to see if you've got what it takes. [\[more\]](#)

The **2008 IEEE Power Engineering Society Transmission and Distribution Conference and Exposition, [Powering Toward the Future](#)**, will address the transmission and distribution concerns of electric utilities. The "T&D Show" brings together power-delivery professionals specializing in transmission and distribution planning, protection and control, substation engineering, distribution automation, communications, renewable energy, operations, and maintenance. A [collegiate job fair, reception and luncheon](#) are also part of the event. The show was last in Chicago in 1994. Don't wait another 14 years. Go to **McCormick Place April 21-24** this year! Volunteer for half a day and get free admittance to the exhibit hall. [\[more\]](#)

Calls for Nominations and Volunteers

Do you know a Chicago Section member deserving of recognition? [\[more\]](#)

Volunteer opportunities are available with the **IEEE Chicago Section Executive Committee** as **Program Chair** and **Awards Chair**. [\[more\]](#)

The **Illinois Engineering Council** wants to honor your outstanding projects. [\[more\]](#)

Two Chicago Section Members Elevated to IEEE Fellows

Read about the mammoth and nano accomplishments of **Tom Tobin** of **S&C Electric Company** and **Daniel Gamota** of **Motorola**. [\[more\]](#)

2008 Washington Award Winner Tackles Technical Talent Shortage

FIRST robotics competition inspires students to become engineers. [\[more\]](#)

D.L.S. Electronic Systems

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Chair's Column: Nominate! Nominate! Nominate!



A special thanks to all the volunteers who made the events of **Engineers Week** a reality. You can read about the very inspiring **Chicagoland Engineering Awards Banquet** in this issue.

March and April is the time of year when there are many requests for **award nominations**. So, why should we take the time to nominate a deserving IEEE volunteer? Technical leaders, organizers, fellow engineers who have provided leadership in creating growth opportunities, and fellow engineers who are models and influence the careers of others are all deserving of award recognition. These willing volunteers have changed and improved all of our lives, and this is our opportunity to return the favor in a small but very real way. Think of how you feel when your efforts are recognized. I know I feel appreciated and thankful. It makes my volunteer efforts feel worthwhile and inspires me to respond positively to the next request.

This issue of e-Scanfax has information on nominating an **Outstanding Chicago Section Member** and nominating projects of distinction for the **Illinois Engineer Council Awards**. Please think carefully about who has touched your professional life and may deserve award recognition. If you have questions, know of an individual you feel deserves special recognition or want to help make one of the award events happen, please see the articles in this newsletter or contact [me](#).

I end with some sad news: We learned this past week that **Doug Staszsky** passed away. Doug was an active and energetic member of the **Chicago Executive Committee** and the major force behind the establishment of this electronic newsletter, **e-Scanfax**. We offer our sympathy and prayers for the members of his family. We will all miss his energy and enthusiasm.

Bernie Sander

Chair, IEEE-Chicago Section

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Could You Be An Entrepreneur?

Have you ever thought about going into business for yourself, but weren't sure if owning your own business is right for you? On the morning of April 5th from 8:30am until Noon, you'll have an opportunity to explore this possibility when the **Chicago Section PACE Committee** (Professional Activities Committees for Engineers) offers "**The Entrepreneurial Mind**" at Harper College in Palatine. In this three-hour session, you can learn about:

- Behavioral characteristics successful entrepreneurs typically share
- How to generate business ideas
- How to assess feasibility of your chosen ideas
- How to mitigate risks

For more information or to register, [click here](#).

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PES T&D Show: Get a Shirt and Get in Free

The **2008 IEEE Power Engineering Society Transmission and Distribution Conference and Exposition**, [Powering Toward the Future](#), is looking for volunteers to make the 10,000 conference

participants expected from around the world feel welcome at **McCormick Place** in Chicago. Volunteers will help assure the smooth operation of the event so that attendees of the **April 20-24** "T&D Show" can focus on learning about today's electrical utility industry innovations and technologies. Volunteers are needed to provide event information, monitor buses, staff special events, greet participants, monitor rooms, and staff the companions and international visitors lounges. Morning, afternoon, and all day shifts are available. In exchange, volunteers will receive a shirt to wear when they volunteer and entrance into the Exposition Hall. For more information or a registration form, contact 2008 IEEE PES T&D Conference and Exposition Volunteer Coordinator **Rich Gordus** at 630-576-6079 or by [email](#).

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Looking for Outstanding IEEE Members

Do you know a Chicago Section member who, through his or her professional and technical abilities, has made outstanding and noteworthy contributions to the Section, fellow professionals, the community, and humanity? Consider nominating that person for **Outstanding Member of the Chicago Section**. The award is not designed to recognize a single achievement, but rather collective contributions. The first step is to contact [Bernie Sander](#) or [John Zulaski](#). As a starting point, the identity of the individual to be honored and a short description(100 words or less) of why the individual is deserving of recognition is needed. Additional information to guide you through the next steps will be provided. Nominations are due March 31.

Two Positions Available on Chicago Executive Committee

Have you thought about becoming more active in IEEE-Chicago Section activities? Now is a good time! We have two service opportunities available on our executive committee.

The **Program Chair's** job is to plan and manage the Section calendar of events, assist with meeting scheduling in order to avoid conflicts, and provide methods for improving the quality of meetings and increasing meeting attendance. The ideal candidate should have experience with meeting planning and implementation.

The **Awards Chair** works to recognize the efforts of our volunteers and the accomplishments of our local membership. A key to sustaining volunteer commitment and enthusiasm is recognizing jobs well done.

The time commitment of the above chair activities is about two to four hours per month. If you would like more information or have an interest, please contact **John Zulaski** by [email](#) or phone at 847-259-8135.

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Let's Award Our Engineering Achievements

The **Illinois Engineering Council** is looking for projects showcasing Illinois engineering talent to recognize with **Achievement Awards**. To qualify, the project or accomplishment must be an engineering project, an engineering process, a contribution towards solving an engineering problem, research that has contributed to meeting a human or social need, or an achievement in engineering education. In the past few years IEEE nominations have been well represented with awards. IEEE submissions include such diverse offerings as the bionic arm, streaming video over voice grade lines, and the energy-efficient Chicago city hall green roof. There are many more projects that are just as worthy and we know that IEEE members know about them.

If you know of a worthy project, write a narrative describing the project and why it is worthy of recognition. Include the name of the owning company or agency, the engineer or engineering companies who made significant contributions, and the completion date. Nominations are due March 31. For more information or to submit a nomination, email [Andy Gremer](#) or visit the [IEC website](#). The IEC represents over twenty engineering societies, including IEEE, and serves as an advocate for education, registration and public safety.

Two Chicago Section Members Become IEEE Fellows

When asked to provide comments or reactions to being named an IEEE Fellow, **Tom Tobin of S&C Electric Company**, pauses, gives a bemused smile, and says, "I'm not a commenter or reactor." Then, he pauses again. "Come, I want to show you something." He walks out of his office and, focused on his destination, he takes his interviewer quickly through a maze of narrow corridors and endless stairs, ending up at S&C's short circuit and high voltage laboratories. Here is the essence of his work. The mammoth power equipment speaks for itself.



Tom Tobin

As evidenced by numerous patents, Tom has been directly responsible for creating a number of unique, current interrupting techniques, insulating methods, and device configurations. The load interrupter switches, circuit switchers, power fuses, fuse cutouts, underground switchgear and electronic fuses he has designed and developed have advanced the technology of power system switchgear and significantly contributed to the reliability and performance of transmission and distribution systems.

Tom is recognized as a world leader in the study of Transient Recovery Voltage (TRV). This rapid rise in voltage at the open contacts of a switch or protection device immediately after the current flow has been interrupted is a critical switch or protection device design parameter. It establishes the contact speed that will be needed to maintain dielectric integrity and thus avoid re-ignition of current.

In his nomination of Tom, Chicago Section executive committee member John Zulaski said, "Mr. Tobin's unique ability to synthesize a solution for a user's specific operating or application problem – either in the form of a new product or the adaptation of an existing product – is rare within the power industry. There are very few individuals within the industry that have this overall insight into the development, design and application of transmission and distribution system switching and protective equipment."

Chicago Section's other new fellow, **Daniel Gamota of Motorola**, couldn't be more different. He did offer comments and reactions. His work is so small that he uses scanning electron and transmission electron microscopes. And, he is trail-blazing in an emerging field rather than perfecting mature technologies.



Daniel Gamota

When Dan received the email congratulating him on his elevation to fellow, he was "quite excited. Recognition from international experts in my field was the greatest technical achievement I have had."

Dan was recognized for his role in developing the materials, processes, and manufacturing equipment to merge nanotechnology, microelectronics, and graphic arts printing for the manufacture of displays, memory arrays, sensors, and wireless communications. He led the team that demonstrated the world's first all-printed integrated circuit in 2003, commercialized the first printed electronics product in 2007, and to date has manufactured over 75 miles of digital and logic circuits. His team used a graphic

arts printing platform and nanoscale-based electronically functional inks to fabricate – essentially print – integrated circuits in a non-cleanroom, non-vacuum environment, significantly increasing throughput while reducing production costs. This accomplishment led to nine U.S. patents and twelve pending U.S. patents.

Earlier in his career, when a high percentage of silicon integrated circuits cracked during assembly, halting the StarTAC™ product launch, Dan was asked to provide a solution. He led the synthesis and qualification of low stress underfills that are now common in the industry. During the initiative he performed finite element analysis, formulated materials based on the results, and teamed with a supplier to enable on-time production launch at three international sites.

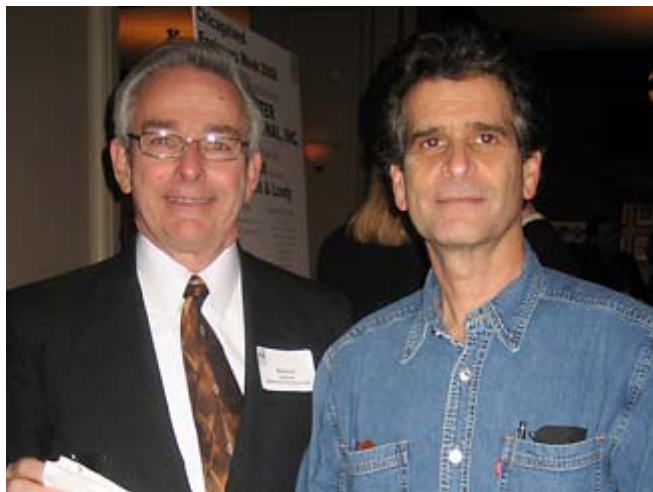
IEEE Fellows are an elite group selected from a global pool following a rigorous evaluation procedure. The designation recognizes unusual distinction and extraordinary accomplishment. With the continued emergence of advanced electrical and electronic technologies, the IEEE looks to its Fellows for guidance and leadership. The Chicago Section is proud that two of the 295 members named to the 2008 class of IEEE Fellows are Chicago Section members. Congratulations, Tom and Dan! Together, you show the breadth and depth of electrical engineering.

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2008 Washington Award Winner Tackles Technical Talent Shortage

Why aren't more young people today pursuing science and engineering?

"It's not a supply problem." That's **Dean Kamen's** assessment of the dearth of student interest in science and technology. In his speech accepting the **2008 Washington Award** at the **Chicagoland Engineering Awards Banquet** in downtown Chicago, Dean said, "We don't need more teachers or more books. We have good teachers. It's not an education problem. It's a culture problem. We have a free culture: you get what you celebrate."



IEEE Chicago Section Representative to ChicagoLand Eweek, Dennis Lamont, congratulates 2008 Washington Award Winner Dean Kamen, president of DEKA Research & Development Corporation.

Citing young people's idolization of Shaquille O'Neal and Britney Spears, Dean went on to offer a prescription for the problem. "We need to provide access to real professionals – positive role models – if we want the hearts and minds of these kids. Engineers," he pointed out, "drive red sports cars, too." Dean described how he started a robotics competition that turned science and engineering into a sport. His organization, **FIRST**, which stands for "**For**

Inspiration and Recognition of Science and Technology purposely leaves the word “education” out of its title. The robotics tournament has grown from humble origins in a high school gym to a competition involving 13,000 schools in 41 cities with finals held at the Georgia Dome.

At the reception before the dinner, students from winning FIRST teams showed off their robots to attendees and explained, in their own words, that Dean’s prescription works. **Rolling Meadows High School** senior **Lisa Dohn** said that she joined the FIRST team as a freshman because her friend encouraged her to join. She went not really knowing what she was getting herself into, but after the first class, she was hooked. “I had no idea what an engineer was. I thought it was someone who drives a train. It is, but I didn’t know it was also robotics. Without robotics, I wouldn’t know what an engineer is.” With great animation, Lisa described the excitement of watching a robot that she helped build compete, knowing, for example that she “wrote the code for the wings.” For her, the “hands on” experience is very compelling. The fifty students in the FIRST program at her school are “like a family.” Lisa has been on all three sub-teams: software, mechanical and electrical, “because I wanted to experience as many types of engineering as I could.”

A presentation by an environmental engineer at **Devante Mitchell’s** middle school sparked the young man’s interest in the field. Devante thought, “I want to be a part of this. I want to change the world and improve the environment.” To pursue his interest, Devante enrolled in the **Architecture, Construction, and Engineering Technical Charter High School** (A.C.E. Tech) in Chicago. His team’s FIRST project is using discarded pop bottles and has involved the whole school in collecting bottles for recycling.



A.C.E. Tech FIRST Robotics Competition team, “The Mechanics,” was the Midwest champion last year. Devante Mitchell is on the far right.

An engaging speaker and entertaining storyteller, Dean told how **Nobel Laureate Shimon Peres** enlisted him to start a FIRST competition in the Middle East with young people from Palestine, Jordan, and Lebanon as well as Israel. According to Dean, Shimon said, “I’m nearly eighty years old, and I used to think that the most important thing is to teach our young people history so that they learn from their grandparents and don’t make the same mistakes again. But, what happens is that each group teaches only its history, its own truth, and how to repeat the same mistakes again. So, we need to teach them all math and science and engineering because they are the same truth for everyone.”

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