

## Calendar of Events

## In October

Sat. Oct 3, 9:00am  
[Recruiting Volunteers](#)  
 IEEE Region 4

Tues. Oct 13, 7:00pm  
[Executive Committee Meeting](#)  
 Chicago Section

Wed. Oct. 14, 11:30am  
[Electrical Power System Devices](#)  
 Power & Energy

Tues. Oct. 20, 7pm  
[Ultra Wide Band](#)  
 Communications

Tues. Oct. 20,  
[Commercial Telematics](#)  
 Electromagnetic

Wed. Oct. 21, 5:30pm  
[Resistance Grounding](#)  
 Industry Applications

Sat. Oct. 24, 6:00pm  
[Hall of Fame & Awards Dinner](#)  
 Illinois Engineering Council

Wed. & Thurs. Oct 28&29  
[VoIP Conference](#)  
 Communications

Fri. Oct 30, 7:30am  
[Power System Grounding](#)  
 Region 4 Power & Energy

## In November

Sun.-Wed. Nov. 1-4  
[Digital Info Management](#)  
 Tech Management

Fri. Nov. 13, 8:00am  
[Smart Leadership](#)  
 Chicago Section

Fri. Nov. 13, 5:30pm  
[Reflector Antennas](#)  
 Antennas/Microwave

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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## This Month's Articles

**Chair's Column: Volunteers Needed To Achieve Section's Goals**

Adding value to IEEE-Chicago membership is the common theme of this year's goals: the first section-wide conference in many years, the first ever grants from the new **IEEE-Chicago Section Fund**, improvements to the Section website, increases in Chapter and Affinity Group activities, and engaging professional development conferences. [\[more\]](#)

**The Illinois Engineering Council Awards Banquet October 24<sup>th</sup>**

The **IEC 71st Annual Awards Banquet** will celebrate excellence in engineering and allied technical fields by announcing the third annual inductions into the **Illinois Engineering Hall of Fame** and the 18th Annual **Engineering Achievement Awards**. [\[more\]](#)

**Members Receive Discounted Registrations at VoIP Conference**

**Henning Schulzrinne** of Columbia University and **Henry Sinnreich** of Adobe will be keynote speakers at the **Fifth Annual VoIP Conference and Expo** at IIT on October 28 and 29. [\[more\]](#)

**IEEE-Chicago to Offer Smart Leadership Conference at Harper College**

Learn to enhance meeting productivity, make smart decisions, negotiate for better results, and lead when you're not in charge on Friday, November 13. [\[more\]](#)

**Third Time Might Be the Charm for Electric Cars**

Former CIO of **Tesla Motors** **Gene Glaudell** presented the history and technical challenges of electric automobiles at the **Fox Valley Subsection** technical meeting. [\[more\]](#)

**New Technology Could Bring Radar Detection Systems to More Cars**

In his presentation on the **Design and Modeling of CMOS Circuits for Wireless Receivers**, **Yang Xu** explained his mass production prototypes for automotive radar detection systems to members of the **joint Chicago Chapter of the Antennas and Propagation Society (APS) and the Microwave Theory and Techniques Society (MTT-S)**. [\[more\]](#)

**Increasing Membership Focus of IEEE-Chicago Officers' Orientation**

Membership Development Chair **John Zulaski** pointed out that membership is a key measure of a Section's success—happy members stay and encourage others to join—and it directly impacts the Section's annual rebate. [\[more\]](#)

**Chair's Column: Volunteers Needed To Achieve Section's Ambitious Goals**

As the 2009-2010 IEEE year begins, the executive committee is focusing on five goals with the common theme of adding value to IEEE-Chicago membership:

**Hold Section-wide Technical Conference:** To be a leader in technology and innovation, the IEEE-Chicago Section must promote the exchange of ideas. Therefore, for the first time in many years, the Chicago Section will be sponsoring a technical conference.

**Frank Krozel** has agreed to head this endeavor. You will be hearing from Frank in the next couple of weeks.

**Make first grants from IEEE-Chicago Section Fund:** John Zulaski has been responsible for setting up the IEEE-Chicago Section Fund. This year, for the first time in the Chicago Section's history, the Section will distribute one History Grant, one Educational Grant and one Scholarship Grant. More information on these exciting developments forthcoming.



Frank Krozel, right, with Bob Hofmann and Clifford Kraft, at the highly successful EMC Mini-Symposium he organizes every year.

**Significantly increase the content on the IEEE-Chicago Section website:** The structure of the web page has been developed, but I need a volunteer to take on the responsibility of continuing to improve it.

**Plan and execute two Professional Activities for Engineers (PACE) Conferences:** By helping members improve their technical and leadership skills, PACE conferences provide an important service to members. I am looking for a PACE Chair to help set up the second of two PACE events we have planned for this year. You can read about the first one, the **Smart Leadership Conference**, in this issue of eScanfax.

**Increase 2010 rebate by 10% over 2009 rebate:** The executive board has taken on the goal of improving our rebate from corporate so that we can better support more Section activities. But, we need your help. The rebate is based on a formula that

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includes how many events we offer. Therefore, I am looking for people to head Chapters of inactive Societies and infinity groups, including **Graduates of the Last Decade (GOLD)** and **Women In Engineering (WIE)**.

I know these are aggressive goals, but with your help they are doable.

Thanks for reading and please [email](#) or call me at 630-220-0199 if you'd like to help.

Sincerely,

[William \(Bill\) Nartker](#)  
IEEE-Chicago Section Chair

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### The Illinois Engineering Council Awards Banquet October 24<sup>th</sup>

The **Illinois Engineering Council (IEC) 71st Annual Awards Banquet** will celebrate excellence in engineering and allied technical fields by announcing the third annual inductions into the **Illinois Engineering Hall of Fame** and the 18th Annual Engineering Achievement Awards. Achievement Award winners include **Pepsico** for its Midwest Headquarters Green Building and Public Awareness Initiatives, **City of Chicago O'Hare Modernization Program** for its Leadership in Energy and Environmental Design (LEED) Certification Criteria for Green Airports, **Illinois State Toll Highway Authority** for the Des Plaines River Valley Bridge, **City of Chicago Office of Emergency Management and Communications** for Operation Virtual Shield, and the City of Chicago and the **Museum of Science and Industry** for the



The Science Chicago Program at the Museum of Science and Industry is receiving an Engineering Achievement Award from the Illinois Engineering Council at the October 24th Banquet.

Science Chicago Program. Award selection criteria include creativity and vision, aesthetics and environmental considerations, along with technical leadership, project management, safety, construction innovation, and participation by multiple engineering disciplines. Festivities begin at 6:00pm on **Saturday, October 24<sup>th</sup>** at the **White Eagle Banquet Hall** in Niles. Advance tickets are \$55 per person and \$100 per couple. [Contact](#) Connie Kelly for reservations.

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### IEEE-Chicago Members Receive Discounted Registrations at VoIP Conference



James Argiropoulos

**Henning Schulzrinne** of **Columbia University**, **Henry Sinnreich** of **Adobe**, and **James Argiropoulos** of the **City of Chicago Office of Emergency Management and Communications** will be keynote speakers at the **Fifth Annual VoIP Conference and Expo** at **Illinois Institute of Technology's** Wheaton Campus on October 28 and 29. IEEE-Chicago members can receive a discounted registration rate of \$100, which is \$50 off the regular price by typing "Society" when registering at the conference [website](#). The conference is co-sponsored by the **Chicago Chapter of the IEEE Communications Society**.

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### IEEE-Chicago to Offer Smart Leadership Conference at Harper College

Learn to enhance meeting productivity, make smart decisions, negotiate for better results, and lead when you're not in charge. On Friday, November 13, IEEE-Chicago is sponsoring an all day **Smart Leadership Conference** at **Harper College** in Palatine, Illinois. IEEE members receive special discounts: **register before October 2 to receive early bird registration rate** of \$159, which includes skill enhancement exhibits, lunch, and professional education credits. Registration information on the IEEE-Chicago Section [calendar](#).

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### Third Time Might Be the Charm for Electric Cars



Gene Glaudell

On September 23, over 65 IEEE members attended the **Fox Valley Subsection** technical meeting. An engaging speaker, former CIO of **Tesla Motors** **Gene Glaudell** presented on **Mass-Market Electric Vehicles – Is the Third Time the Charm?**

The early 1900s saw the first generation of electric cars. Without many oil refineries, gas was expensive, and without good roads, the short range of electric cars was not an issue. And, since electric cars were direct drive, they avoided the physically taxing problem that shifting gears presented before the clutch was invented. But, better roads, more refineries and the clutch saw the rise of the internal combustion engine

and decline in electric cars.

The early 1990's saw the second generation of electric cars. Tesla, which was founded for environmental reasons and to reduce our dependence on foreign oil, is part of the third generation. With General Motors now owned by the government, the time is ripe for automobile innovation. Tesla has sold over 700 of its two-person Roadsters for \$109,000 each.

Glaudell detailed the technological decisions and testing required to bring the Roadster to market. In its choice of commercially-available lithium ion batteries, Tesla engineers decided to use proven rather than leading-edge technology. Owners need to replace Roadster's pack of over 7000 batteries every five years, but when they do, they can purchase the generation of batteries then currently available. So, the car will actually get better with age. Tesla owners will be "riding the technological curve."



The totally electric Tesla Roadster can go 240 miles between charges.

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### New Technology Could Bring Radar Detection Systems to More Cars



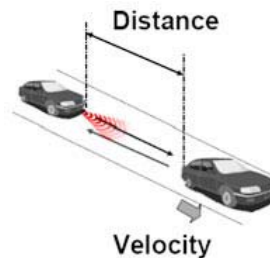
Yang Xu

On September 18<sup>th</sup>, **Yang Xu**, assistant professor in the Department of Electrical and Computer Engineering at the **Illinois Institute of Technology (IIT)**, made a well-received presentation on the **Design and Modeling of Millimeter-Wave Complementary Metal-Oxide-Semiconductor (CMOS) Circuits for Wireless Receivers** to the joint **Chicago Chapter of the Antennas and Propagation Society (APS) and the Microwave Theory and Techniques Society (MTT-S)**. At IIT's Wheaton Campus, Yu discussed the mass production advantages that CMOS circuits—traditionally used in low frequency applications—can bring to high frequency applications. Xu explained the radar (which is actually an acronym for **R**Adio **D**etection **A**nd **R**anging) systems that were in **Audi, Lexus,**

**Volkswagen,** and **BMW** cars on display at the **Chicago Auto Show** this year. Today, two classes of systems are in limited production: long-range radar performing forward-looking functions such as autonomous cruise control, collision warning and avoidance, and pedestrian detection, and short-range radar for side-looking and rear-looking sensors for lane-change warning, backup warning and parking assistance. To date, the deployment of such systems, especially the 77GHz long-range radar systems, has been limited to luxury car models due to the high semiconductor and system cost. Xu hopes to change that, making our roads much safer, by lowering the cost with CMOS circuits.



The distance-sensing radar is hidden in the logo of this Volkswagen which was on display at the Chicago Auto Show.



The joint APS/MTT-S Chicago Chapter will learn about the **Analysis of Reflector Antennas Using Physical Optics** from **IEEE Fellow Thomas Milligan** on November 13.

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### Increasing Membership Focus of IEEE-Chicago Officers' Orientation

At the **IEEE-Chicago Section's Annual Officers' Orientation Dinner on September 8<sup>th</sup>** at **DeVry University in Addison**, there was good food and good talk with a focus on **growing and retaining membership**. In his presentation on the



topic, Membership Development Chair **John Zulaski** pointed out that membership is a key measure of a Section's

IEEE Members Norman Phoenix, John Zulaski, Fab Devetak, Bill Nartker (with wife Darlene) and Hugh Edfors having fun at the Awards Dinner this past spring.

success—happy members stay and encourage others to join—and it directly impacts the Section's annual rebate. At 90% of the section's revenue, the rebate allows the Section to publish e-Scanfax, support smaller society chapters, and sponsor special events.

A lively discussion of ways to grow and retain members ensued, including staffing

IEEE membership booths at local technical conferences and coordinating with potential corporate partners. Members who volunteer tend to renew, so volunteer recruitment and activities can impact membership levels. In addition, the Section wants to encourage senior members to nominate associates for senior membership. Not only do senior members tend to remain members, but their membership also garners a greater rebate for the section.

The Section's membership numbers have been consistent for the last several years but represent a fraction of the technological leaders in the greater Chicago area. August 2009 membership for the Chicago Section was 5026 compared to 5047 in August of 2008—a drop of less than a half percent. During the same time period, however, the Central Region increased total membership by two percent and internationally, membership grew exponentially. There is room for expansion, and it starts with each of us. Take a moment to consider friends and colleagues who might benefit from joining IEEE. Invite them to join you next time you go to a meeting.

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