

## Calendar of Events

### Upcoming in December

Wed. Dec. 3, 7:00pm  
[IIT VoIP Student Projects](#)  
 Communications

Tues. Dec. 9, 7:00pm  
**Executive Committee**  
 IEEE-Chicago Section

Wed. Dec. 10, 11:30am  
[Data Center Power Systems](#)  
 Power & Energy

Email upcoming events to [Pat Hutson](#) for inclusion on the IEEE-Chicago [website](#) calendar.

## This Month's Articles

### Chair's Column

It's time to renew your IEEE membership, and ask someone else to join! [\[more\]](#)

### DySPAN Reviews Technologies in the Context of Policy

Attendees of the **International Dynamic Spectrum Access Networks (DySPAN) symposium** were treated to Chicago hometown delights including cell phone inventor **Marty Cooper**. [\[more\]](#)

### Engineers Learn to Write For Non-Engineers

At the IEEE-Chicago Section **Effective Business Writing** seminar, **Marianne Rowe-Dimas** gave tips for succinct communication. [\[more\]](#)

### From Pots to Pans: Communications Migrate to the Edge

**John Waclawsky** of **Motorola** talked not about culinary feats but the evolving decentralized communications network. [\[more\]](#)

### Chair's Column: It's Time to Renew Your IEEE Membership

It's that time of year when we are making cost/benefit decisions about the coming year – on things like medical and dental plans as well as professional society memberships, such as the IEEE.

As the world's largest technical society with 365,000 members in 150 countries, the IEEE brings members access to the industry's most essential technical information and career development tools. Publications and newsletters like the **IEEE Spectrum Magazine**, **IEEE Potentials** and the publications of the various societies are great knowledge tools for staying current with the fast growing world of technology, but for most of us, our contact with the IEEE is primarily through our local technical chapters and section, which provide invaluable face-to-face, small group opportunities for learning and interacting directly with **Distinguished Lecturers** and other experts. Seventy-eight such technical meetings and presentations were held in the Chicago Section in 2007.

These local meetings are also opportunities for us to present material on which we are the experts. The Section holds an annual awards banquet to recognize and celebrate the accomplishments and careers of IEEE members in the Chicago area. A monthly Career Networking meeting allows members to meet



**Fox Valley roundtable.**

other engineers looking to grow their careers and employers looking for engineers with specific skills. The Section also holds professional development workshops, with significantly reduced fees for IEEE members, that help engineers develop skills in such areas as business writing, financial planning, and project management.

I invite you to consider not only the benefits you have taken advantage of, but also those that would further enhance your career and professional life. I challenge each of you to invite a fellow engineer to join us as members of a great professional organization – the IEEE.

### Bernard Sander

Chair, IEEE-Chicago Section

[| top |](#)

### DySPAN Reviews Technologies in the Context of Policy

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With keynote speakers from **Alcatel-Lucent Bell Labs**, the **City of Chicago**, and **Motorola**, Chicago proudly showcased her technological might at the **International Dynamic Spectrum Access Networks (DySPAN) symposium** to the 300 attendees who came from 23 countries. Chicago IEEE student members from **Illinois Institute of Technology (IIT)** and **Northwestern University** took advantage of this **IEEE Communications Society (ComSoc)** international conference at the Millennium Knickerbocker Hotel on North Michigan Avenue October 14th through 17th.

Former Motorola CEO **Christopher Galvin** was the speaker at the evening banquet, featuring delectable filet mignon, but it was the last minute addition of his former employee, **Marty Cooper**, to the conference agenda that was the buzz of DySPAN 2008.



**Marty Cooper**

Cooper, the inventor of the cell phone and the Executive Chairman and Co-Founder of [ArrayComm](#), encouraged his fellow engineers to always keep in mind the problem they are trying to solve, and not just come up with cool technology. In academia, according to him, people tend to solve the easy problems – the solvable problems, but not the important ones.

According to Cooper, the issue is not scarcity of the radio frequency (RF) spectrum but reallocation of it. As the Federal Communications Commission (FCC) prepares to allow secondary users to squat on temporarily unused radio frequencies, the intricacies of detecting frequency use and quickly moving sender and receiver to unused frequencies need to be perfected in order to provide dynamic, rather than static, access to the radio frequency spectrum. Cooper suggested allocating space as well as time and frequency among users so that several geographically distant users could share the same frequency at the same time. He also pointed out the irony that we use cell phones mostly indoors but most cell phone antennas are outdoors.



The rubber met the road in the demonstration room which was filled with laptops and RF Spectrum Analyzers whose screens displayed nervous bouncing lines more reminiscent of the comfortable monotony of healthy heart monitors than the dramatic plunging and slowly climbing stock market graphs of which we have seen too much of late.

**Cindy Hood**, Associate Professor of Computer Science and Engineering at IIT and an IEEE member, said, “One of the great things about this conference is that it involves both technology and policy. It gives a bigger perspective than what’s going on with just the specific technical issues.” Students, and indeed all attendees, see the economic and policy barriers to implementing the technology they might develop.

DySPAN, which is held every 18 months, will next take place in the Spring of 2010 in Singapore.

[| top |](#)

### **Engineers Learn to Write For Non-Engineers**

“I’ve been told many times that I write well *for an engineer*,” reports IEEE member **Dale Scholtens**. “When I worked in telecom product development, colleagues often asked me for advice on organizing their presentations and white papers. In making a career transition to IT consulting, however, I realized the writing style I used with technical audiences was not suited for general business communications.” As a result of attending the

**IEEE-Chicago Section Effective Business Writing seminar** on November 8th, Scholtens realized that the qualifier, “for an engineer,” had a double entendre when used about his writing: He, as an engineer, writes better than most engineers, but he was also writing in a style appropriate for an audience of engineers. At the seminar taught by **Marianne Rowe-Dimas**, owner of the [Image Factor](#), Scholtens particularly resonated with the instruction to analyze his audience: “Writing for the decision-makers among my readers helps me organize my material and determine the amount of detail to include.”



Mind mapping seminar.

The seminar surveyed topics ranging from high-level document organization to details of individual word choices for reports, letters, and email. The fast-paced four-hour session, which included lecture, discussion, and group exercises, touched on passive versus active voice, transition phrases for readability, and mind mapping to organize content. Scholtens found the review of phrase construction and noun-verb conversion helpful: “Why use ‘Attached please find...’ when ‘Here is...’ works? Or why use ‘She made a decision to...’ when ‘She decided to...’ says the same thing?”

The seminar helped IEEE-Chicago member **Megan Siarkiewicz** fulfill a personal professional development goal: to improve her written communications. Since attending, Siarkiewicz says, “My writing is more straightforward and to the point. My boss really loves it. Each thought is a sentence. Before, my emails were big paragraphs. I would definitely recommend the seminar!”

| [top](#) |

### From Pots to Pans: Communications Migrate to the Edge

The November 11<sup>th</sup> **IEEE Communications Society** technical seminar, **The Revolution at the Edge of the Network**, could have been called from POTS to PANS2. That’s Plain Old Telephony Service (POTS) to Pretty Amazing New Stuff (PANS2).



**John Waclawsky**

The speaker, **John Waclawsky**, who is responsible for Services Architecture and Governance at [Motorola](#), argued that the intelligence of communications networks should be dispersed at their edges to allow for end-user choice rather than be centralized like traditional phone services managed from a central office. Peer-to-peer services such as Skype are replacing brokered phone companies, but they do not do three core network functions – identity, administration, and persistence – very well.

Technology is complicated but when it’s effective, Waclawsky posited, it’s invisible. Our default used to be that we were unconnected, but now our world has shrunk so that we are always available: with worldwide bandwidth tripling every year, our new default is that we are always on. But, in this new state of hyper-connectivity, the importance of reputation in social networking communities grows. People value recommendations from friends as the distribution of content proliferates. In order to find people who like the same music you do, in the future, you might scan the music on your cell phone at a bar.

Waclawsky also stated that it’s a lot easier to put a radio in everything than to put everything in a radio. He envisioned an interconnected society in which a radio in the refrigerator would call for help when the power goes out. Cognitive radios will be able to look at radio frequency environment and figure out what channels are free and switch to them in order to avoid interference. Some handheld devices now have as many as seven radios for such functions as Bluetooth, cell service, and GPS.

| [top](#) |