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Also Published Online at

[www.highfrequencyelectronics.com](http://www.highfrequencyelectronics.com)

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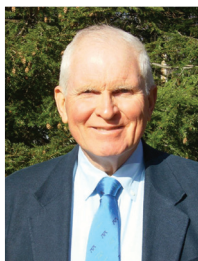
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## IMS2012: A Look in the Rear-View Mirror

Tom Perkins  
Senior Technical Editor



The celebration of the 60th anniversary of the IEEE Microwave Theory and Techniques Society in Montréal was quite memorable. After many years, I finally know why I studied French in high school. Although I've lived in nearby New Hampshire for about 40 years, this was my first visit to Montréal, only reinforcing the fact that involvement in IEEE IMS can take one to many new places.

The symposium started (and ended) with numerous workshops and short courses. The Plenary Session late Monday afternoon was colorful and thought-provoking. It was followed by the Welcome Reception sponsored by HFE. I had the privilege later that evening of attending the IEEE MTT Chapter Chairs' Meeting hosted by coordinator Bela Szendrenyi. In attendance were approximately 35 chapter leaders from many Sections throughout the world. Dr. Peter Staecker, IEEE President Elect and fully involved MTT volunteer for many years, was in attendance.

Another highlight for me was the Ham Radio Social held on Tuesday evening. A Morse code contest was held starting at five words per minute and working up to about 30 WPM. A timed quiz followed. Dr. Jim Rautio, AJ3K, IEEE Fellow, won. Another contest to see how quickly one could measure a bandpass filter using an Agilent FieldFox RF Analyzer was held with Jim's son Brian, AB2MP, taking first place. Nick Koliass, 2012 MTT President, handed out prizes.

### Technical Sessions

The Technical Sessions, typically running eight parallel topics, offered just about anything one could wish for in broad categories of Microwave Field and Circuit Techniques, Passive Components, Active Components, Systems and Applications, Emerging Technical Areas, and General Interest. Meanwhile the well laid-out Exhibit Floor was buzzing with activity, albeit perhaps a bit subdued in a few instances due to restrictions preventing some companies from transporting goods across the border. A highlight for me was visiting the Student Competitions. This activity grows from year-to-year thanks to many devoted professors and industry experts. Teams testing their amplifiers, baluns, etc. from many colleges and universities around the world really get into these events with great pride and even wear team jerseys and seem to have fans in the audience. It's a great experience that gives students an opportunity to not only build state-of-the-art equipment, but also perform tests with the latest gear that they will likely encounter when they graduate and begin contributing in new ways to our exciting technology growth.

The Wednesday evening Awards Banquet is always memorable. A gentleman I had the privilege of working with for a short time about 30 years ago, Dr. George Haddad from the University of Michigan, won the prestigious Microwave Career Award—well deserved, George!

I couldn't help but remember my first IMS symposium in 1975, where I had the privilege of meeting Smith Chart inventor Phillip H. Smith (1905-1987). I make this point because opportunities to meet the "giants" of our industry likely only happen once: you need to take the time to go to their lectures or meet them when given the chance—not wait until later, which may never come.

#### Future Trends

If it's June (occasionally May, e.g. Phoenix in 2015, San Francisco in 2016) it's IMS time. That often means merger announcements and new-product releases. My general impressions from this most recent event include:

- GaN is quickly maturing into a reliable means of achieving high power.
- Greater microwave integration with optics.
- Smart phones, iPads and other similar portable devices are getting much more capable with many radios and antennas residing in one package.
- Shortly, almost all web access will be portable, even wearable glasses, tabletops, wall-mounted devices and probably virtual 3-D media.
- Voice command of equipment will become commonplace.
- Advances in fabrication and probing capability for Terahertz devices will enable great breakthroughs in surveillance and anti-terrorist technology.

- Tablets become the wallets of the future.
- Innovative use of available bandwidth will continue to be a challenge.
- New low-cost technology opens doors to implement unconventional technology for tags, sensors, and many

other forms of wireless devices.

It's not too early to start thinking about attending the 2013 Symposium in Seattle. In the meantime there are many regional activities and local talks that one can take advantage of throughout the RF/microwave community.