
Global Communications Newsletter

March 2009

Highlights from the 4th IEEE Broadband Wireless Access Workshop, Collocated with GLOBECOM 2008, New Orleans, Louisiana

By T. M. Bohnert, SAP Research, Switzerland; D. Moltchanov, Tampere Univ. of Tech., Finland;
G. Fodor, Ericsson R., Sweden; D. Staehle, Univ. Würzburg, Germany; E. W. Knightly, Rice Univ., USA

From 1 to 4 December, the IEEE Global Communications Conference 2008 (IEEE GLOBECOM) was held in New Orleans, Louisiana, United States. New Orleans was hosting GLOBECOM for the second time, the first having been in 1985, and in order to account for the enormous changes in the communications industry that have happened since, ComSoc's flagship conference was themed "Building A Better World Through Communications."

While contemporary change appears omnipresent and has the utmost positive connotation, especially in a place like New Orleans, little to no change has happened with respect to the popularity of IEEE GLOBECOM. Thus, in some cases, no change augurs well too.

This manifestation of recognition was reflected in the number of workshop proposals submitted to the workshop chair, Dr. Devetsikiotis. After a careful review process, only 9 out of 60 (!) workshops were included in the conference program.

The 4th IEEE Broadband Wireless Access Workshop (BWA) (<http://www.bwaws.org>) was selected as one of these full-day workshops. After being collocated with NGMAST '07, IEEE CCNC '08, and IEEE ICC '08, this achievement unequivocally confirms the Workshop's overall objective, which is to remain the prime workshop in the area of broadband wireless access research.

This claim is underlined by the response to the call for papers: a new record number of 96 papers were submitted from 28 different countries (70 from 26 for the previous edition). In order to accommodate this number, the Technical Program Committee (TPC) has selected 27 papers for publication and inclusion on IEEE Xplore. After acceptance ratios of 32, 28, and 22 percent, this edition's 28 percent well matched the Workshop's excellent profile. On top of this, the best papers, ranked on reviewers' comments and workshop presentation, will be forwarded to the *EURASIP Journal of Wireless Communications and Networks*, which accepted a special issue in association with and dedicated to the workshop.

The papers were organized into four technical sessions: Optimization and Performance Evaluation, Resource Allocation and Scheduling, Channel and Physical Layer Modeling, and Relay Networks. Topics of these technical sessions included theoretical as well as practical deployment aspects of broadband wireless access technologies; most notably, roughly 50 percent of the papers were authored by key industrial players.

The Workshop highlight was the keynote speech of Prof.

Dr. E. W. Knightly from Rice University, Texas, one of the leading researchers in BWA research. In his career Dr. Knightly has published numerous seminal papers in several areas, but the Workshop's context refers foremost to his current research in wireless mesh networks. In recognition of his work, he was recently appointed IEEE Fellow. He also remains committed to the community (e.g., as General Chair of ACM MobiHoc 2009 and Editor of *IEEE Transactions on Mobile Computing and IEEE/ACM Transactions on Networking*).

In his talk Edward reported valuable practical and theoretical insights revealed by a project aimed at operating a wireless access network in an under-resourced community in Houston, Texas. The network serves thousands of users over several square kilometers via a three-tier multihop architecture employing 802.11. He described important lessons from the field spanning measurement studies that point to protocol design challenges to anthropological studies that characterize community response to new technology. The slides of his talk are available on the Workshop's Website.

We hope that this edition of the BWA Workshop series has fulfilled the expectations of the authors and workshop attendees, as well as the conference host. From our point of view, scientifically and organizationally, it was an outstanding event in the area of wireless research, and we would like to express our sincere gratitude to all people involved, in particular to the outstanding performance of the TPC and all reviewers. Not to forget, special thanks goes to the IEEE GLOBECOM 2008 Workshop Chairs for their reliable support and constructive cooperation.

As announced at the closing of the 2008 Workshop, we plan to propose the 5th IEEE Broadband Wireless Access Workshop to IEEE GLOBECOM 2009. However, this is some time ahead, and we therefore point the interested reader to our Website, <http://www.bwaws.org>, where we announce the latest information.

- Thomas Michael Bohnert, SAP Research, Switzerland, and Dmitri Moltchanov, Tampere University of Technology, Finland — General Chairs
- Edmundo Monteiro, University of Coimbra, Portugal, and Yevgeni Koucheryavy, Tampere University of Technology, Finland — General Co-Chairs
- Gabor Fodor, ERICSSON Research, Sweden, and Dirk Staehle, University of Wuerzburg, Germany — TPC Chairs
- Andreas Kessler, Karlstad Universitet, Sweden, Sean Murphy, University College Dublin, Ireland, and Christian Schwingenschloegl, SIEMENS CT, Germany

Age vs. Time Speed at Sweden ComSoc

By Juan Hernandez, Jan Nilsson, Tommy Svensson, Bogdan Timus, and Leif R. Wilhelmsson,
Sweden ComSoc Chapter

“It must be a long way from being an IEEE Student Member to being able to become an IEEE Senior Member!” Did you think like this when you were about to obtaining your engineering degree? Have you had the feeling that this road is too long and tough to be worth even contemplating, that you need to be a genius to make it to the end? Certainly many new graduates without insight into how IEEE works must think and feel like this.

But you don't have to find a short and very important formula like Einstein! An IEEE Senior Membership is just a recognition of those engineers who have fulfilled their obligations to the Society: to enhance the life quality of their fellow citizens through their contributions and developments. This simple statement reveals the fact that many IEEE Members deserve this recognition. The Swedish ComSoc Chapter is actively working on making the trip from Student to Senior Member easier.

Let's look at the different steps in this process. We start with young members, typically Student Members. At this stage progress seems to be very slow, often accompanied by the anxiety of not having a clear idea of what happens after one's studies, not seeing a clear application for our studies, and so on. Our initiative Willing to Integrate (Will2Int) aims to create a bridge over experience and age boundaries, between young members willing to integrate in the larger IEEE community and experienced members who are already recognized integrators, called RecInt members. Events of general interest such as Distinguished Lecturer Talks can be used as fora to establish contact between Youngs and Seniors. Will2Int members are given the opportunity to introduce themselves, their work, and their interests. The contacts established during the informal discussions following Distinguished Lecturer Talks have the potential to evolve into mentor-apprentice relationships. These interactions are useful as complementary guidance during studies, but also for integrating into the local IEEE community.

Later, when some achievements have been inserted in the CVs, we give the opportunity to disseminate them with our sponsored workshops. To present your work and discuss it with your colleagues, sometimes in your own mother tongue, is a good complement to international conferences. These events, organized at the highest technical level with the participation of world leaders in the field, are easy to attend with local transportation time and costs. Attending high-quality national workshops helps build a good local research network, which is valuable for your continued work and further career development. The industrial scenario is often different. Conference papers and journal publications might no longer be what fill the CV. Instead, work might be targeting the next generation of some system or some implementation.

A career might go a variety of ways. We might aim for a management position, project leading, or a career as a technical expert. Irrespective, our ComSoc Chapter can always serve as a good interface with the younger generation.

Then time starts going faster; years have gone, and your CVs are thicker. Your activities are taking time from your life, perhaps you consider too much, but you are happy. The satisfaction makes the Senior title not seem so far. However, finding Senior Members who can act as references for you can be an obstacle. Therefore, Sweden ComSoc periodically organizes meetings with Seniors who can provide the three references needed. The meetings are held at different locations around the country, and the aim is that within a three-year period each member should have at least one chance to par-

ticipate in a meeting close to home. ComSoc gives you the opportunity to disseminate your expertise. Give to others the opportunity to integrate in these circles, with which you feel so identified. ComSoc gives you the possibility to be a Distinguished Lecturer. Breaking your territorial limits, your expertise reaches many places distant from your home. Also, you can be a little more expansive and become an international leader in this process. You can be a member of the group of world leaders in the organization.

But when time is going by very fast, compensated by the fact that you need do nothing by obligation, Sweden ComSoc offers the right scenario for enhancing the life of your neighbors. You are still recognized, and even if the time unit for you is in terms of years, the satisfaction remains. You have the opportunity to attend Will2Int sessions organized in parallel with the Distinguished Lecturer Talks and as a member of the RecInt group in our Chapter. The cycle is over, but ComSoc has been with you all the time, allowing you to receive the benefits of this organization of volunteers with hundreds of thousands members all over the world with a main objective: to enhance the life of its members and society. As we are an organization of engineers, perhaps one of our readers is a social mathematician willing to find numerical expressions for what we have written here. To you we give the following hint: if A stands for age, TS for time speed, and TUF for time unit feeling, then what we say here is that $TUF=TS/A$ is a constant. The good news is that ComSoc, like all IEEE Societies, gives its members constant benefit over our whole engineering lives.

ComSoc Portuguese Chapter: Activities in 2008 Luis M. Correia and Joel Rodrigues, Portugal

In 2008 the ComSoc Portuguese Chapter continued the activities of organizing seminars and providing, through its Website, a permanent list of conferences in the area, allowing an improvement of the information flow among the Portuguese scientific community working in communications.

By the end of May a seminar on mobile communications was organized, essentially aimed at students about to graduate but open to industry as well. It was organized jointly with IST - Technical University of Lisbon, taking advantage of this university's initiative. Speakers came from industry (Alcatel-Lucent, Vodafone, and Optimus), as well as the Portuguese telecommunications regulator (Anacom), giving a perspective on the foreseen evolution of technology, and services for mobile and wireless communications. The event was well attended, by more than 50 people, the majority being students. This joint organization will be pursued in coming years.

Following the past organization of joint activities with the Portuguese Engineers Association (Ordem dos Engenheiros), another event took place at the end of September, this time dedicated to “Perspectives on Electromagnetic Exposure.” It brought together speakers from various backgrounds, given the transdisciplinarity of the topic: Luis M. Correia, from IST - Technical University of Lisbon, addressed the telecommunications engineering aspects; Antonio Tavares, from ENSA - New University of Lisbon, gave the medical and health viewpoint; Catarina Freitas, from the Municipality of the City of Almada, presented the perspective of environmental engineering on this theme. At the end, using a wideband probe and a spectrum analyzer from IST-TUL, participants were able to measure the electromagnetic fields from their own mobile phones. The event attracted more than 130 people,

(Continued on Newsletter page 4)

The 60 Years of HTE: The Hungarian IEEE Sister Society

By: Gyula Sallai, President of HTE, Csaba A. Szabó, Editor-in-Chief Infocommunications Journal, and Rolland Vida, Chair of International Affairs Committee of HTE, Hungary

2009 is a special year not only for the IEEE, which celebrates its 125th anniversary, but also for HTE, the Scientific Association for Infocommunications, Hungary, which was founded 60 years ago, on January 29, 1949. The organization, formerly known as the Scientific Society for Telecommunications, is a voluntary and autonomous professional society of engineers and economists, researchers and businessmen, managers and educational, regulatory, and other professionals active in the fields of telecommunications, broadcasting, electronics, information, and media technologies in Hungary. With a membership of over 1300 individuals and 100 corporate members (large companies, small and medium enterprises, research laboratories, and educational institutions), HTE has become one of the most important scientific associations in the country, with continuously broadening international relations and activities as well. Being an IEEE Sister Society has certainly enabled us to maintain or even further enhance our reputation as an important player in the field of infocommunications, for which we are of course grateful to the IEEE.

One of the important activities of HTE is the organization of high-quality international scientific conferences. Having organized the World Telecommunications Congress (WTC) in 2006 and the 16th IST Mobile and Wireless Communications Summit in 2007, last year we brought to Budapest the 13th International Telecommunications Network Strategy and Planning Symposium, Networks 2008. We are happy to say that the five-day conference was a great success, as it attracted more than 260 specialists from 30 countries, in addition to the 75 participants that registered only for the tutorial sessions that were held the first two days. The program of the symposium was divided in 21 technical sessions, which included 90 presentations altogether. In addition, there were plenary talks and panel sessions that involved prestigious speakers from regulatory bodies, industry, and academia. For more information, please visit the conference Website at <http://www.networks2008.org>.

And the 60th anniversary of founding HTE cannot be truly celebrated, of course, without organizing a similarly prestigious conference. That is why we are happy to help the Communications Society in organizing the IEEE Wireless Communications and Networking Conference (WCNC 2009), which will be held in Budapest in April 2009, after being hosted by cities like Hong Kong, New Orleans, and Las Vegas in the last few years. WCNC is the premier conference purely dedicated to wireless communications, and with a technical program including 10 tutorials and more than 500 research papers, it is certainly one of the major scientific events not to be missed by researchers and industry professionals.

Besides this, the entire year of 2009 will be celebrated by HTE as an anniversary year, with many dedicated symposia, workshops, and publications presenting the history of the association and the evolution of its activities. We have also to mention that in 2009 we significantly restructured the *Infocommunications Journal*, the scientific journal published monthly by the HTE. Until recently, our journal was a predominantly Hungarian language journal (in fact, the only one in our field), fulfilling the important mission of disseminating information on the state of the art in different areas in telecommunications and information technology among Hungarian professionals, while also trying to preserve and develop the professional language in this field. We also published English issues twice a year, which were compiled mostly from the best research papers published in Hungarian during the preceding half-year period.

As of January 2009, we are going to increase the number of English issues to four, with the objective to become a quarterly international journal. We intend to publish original research papers in the aforementioned areas after a rigorous peer reviewing process. Our newly appointed International Advisory Committee, consisting of high-standing representatives of the international professional community, supports the Hungarian editorial team in maintaining the quality of published papers. The *Infocommunications Journal* is intended to become a recognized international publication forum for researchers not only from Hungary, but also from neighboring countries and, in principle, from all over the world. We will be particularly happy to publish theoretical and experimentation research results achieved within the framework of European ICT projects.

As a conclusion, we hope that the 60th anniversary of our association will be celebrated through attractive high-quality events, and that in 2069 we will be able to inform you of another 60 successful years in the life of HTE.

***Highlights from BIHTEL 2008:
Implementation and Exploitation of
New Communication Technologies,
Applications and Services***
*By Kerim Kalamuji, University of Sarajevo,
Bosnia and Herzegovina*

Sarajevo, the capital of Bosnia and Herzegovina, hosted the 7th International Symposium on Telecommunications, BIHTEL 2008. It was held on 3–5 November 2008 at the state-of-the-art congress hall of UNITIC Business Center. BIHTEL is a traditional biannual international symposium, which, over almost 15 years, has grown into one of the most respected international conferences on telecommunications in the region.

BIHTEL 2008 was organized by the Faculty of Electrical Engineering of the University of Sarajevo in collaboration with IEEE Bosnia and Herzegovina Section and IEEE Communications Chapter. This year's main theme was "Implementation and Exploitation of New Communication Technologies, Applications and Services," and it appeared to be a quite tempting and interesting theme for all those who wanted a glimpse of forecomming technologies.

The opening ceremony consisted of the welcome speech by the organizer, followed by two keynote speakers, both well-known leaders in their respective fields. The first keynote speaker was Prof. Branka Zovko-Cihlar from Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia. Her speech was entitled "Broadcast Networks Planning for Digital Terrestrial Transmission." The second keynote was delivered by Prof. Gregor Rozinaj from Slovak University of Technology, Bratislava, Slovakia. His speech was entitled "Natural Communications with Computers."

BIHTEL 2008's three-day program consisted of five sessions, where 44 accepted papers were presented in a very relaxed atmosphere. Papers were submitted not only from Bosnia and Herzegovina, but also from other countries in Southeastern Europe; that was more evidence of the regional importance of this conference. It is important to mention that there were four student papers presented this year. It is a practice that will be continued in coming years, to inspire young students and entry-level engineers to do research, and afterward write and submit their papers.

(Continued on Newsletter page 4)

What We Learned at the GLOBECOM 2008 Communication History Sessions

By Jacob Baal-Schem

Communications History Committee

“History is a many splendored thing.” Sometimes it teaches us unexpected lessons — such as the relation between the discovery of radio and Irish whiskey. This was a lesson we learned at the recent History Panel at GLOBECOM 2008 on “Who Invented Radio?”

It appears that whiskey was one of the reasons for the success of Marchese Guglielmo Marconi (25 April 1874–20 July 1937), best known for his development of a radiotelegraph system, who shared the 1909 Nobel Prize in Physics with Karl Ferdinand Braun, “in recognition of their contributions to the development of wireless telegraphy.” Marconi’s Irish wife, Annie Jameson, was the granddaughter of the founder of the Jameson Whiskey distillery, and the Jameson family assisted in funding the experiments of the young inventor.

Another myth that was brought up at this panel was about a fur coat given to Marconi by the Russian inventor Alexander Popov. It might be true that Marconi received a coat from a person named Popov (which is a quite common name, meaning “the son of a priest”), but it seems quite unreasonable that this was A. S. Popov.

These and many other (and more scientific and historic) events were discussed at the “historic” History Sessions held

at GLOBECOM 2008 in New Orleans. These were the first ever sessions on history at a major ComSoc Conference, as noted by ComSoc President Doug Zuckerman.

The first session opened with an invited lecture by Steve Weinstein on the origins of OFDM, followed by a presentation by former ComSoc President Paul Green and additional papers. The second session included a Panel discussion, chaired by another former ComSoc President, Mischa Schwartz, with participants discussing the contributions of Tesla, Branly, Fessenden, Popov, Marconi, and others, to the development of radio communications.

The History sessions at GLOBECOM '08 drew up to 80 attendees, and many participants showed interest in the activities of the newly formed Communication History Committee, who intend to form a ComSoc History network and publish a History Column in *IEEE Communications Magazine*.

History sessions will continue, and the sessions for GLOBECOM 2009 are already planned, with Jerry Hayes and Jacob Baal-Schem as co-chairs and a scheduled opening lecture on the development of the ALOHA communication protocol.

BIHTEL 2008/continued from page 3

The Symposium was sponsored by BH Telecom, Iskratel, Recro-net, Ericsson, IBM, Energoinvest, HT-Eronet, and Hermes SoftLab. Four of these sponsors (IBM, BH Telecom, Iskratel, and Recro-net) held corporate presentations, where attendees could get to know their business activities better. During the Symposium, Iskratel donated a new laboratory for testing triple play services, worth €40,000, to students of the Faculty of Electrical Engineering. The laboratory will be used by high schoolers and faculty students from Bosnia and Herzegovina for development and testing of their own ideas and solutions from the domain of telecommunications and business information systems.

About 200 attendees and visitors enjoyed the symposium as well as summer-like days, quite extraordinary for this time of year. But nobody complained about the weather. On the contrary, everybody did their best to get the most out of their free time to enjoy sunny days and all the beauties of the host city. Sarajevo is famous for its traditional architectural, cultural, and religious diversity, coexisting for centuries. Sarajevo is famous for its cuisine, delicious traditional Bosnian dishes that leave no one indifferent. The next BIHTEL will be held in 2010, and we welcome you all to join us next year.

PORTUGUESE CHAPTER/continued from page 2

filling the room of Ordem dos Engenheiros.

In 2009 the ComSoc Portuguese Chapter will continue pursuing the same objectives, namely, participation in Distinguished Lecturer Tours and the organization of seminars on a monthly basis with speakers from industry and academia (which is already in an advanced stage).

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www.comsoc.org/pubs/gcn

STEFANO BREGNI
Editor

Politecnico di Milano - Dept. of Electronics and Information
Piazza Leonardo da Vinci 32, 20133 MILANO MI, Italy
Ph.: +39-02-2399.3503 - Fax: +39-02-2399.3413
Email: bregni@elet.polimi.it, s.bregni@ieee.org

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REGIONAL CORRESPONDENTS WHO CONTRIBUTED TO THIS ISSUE

THOMAS MICHAEL BOHNERT, SWITZERLAND
(THOMAS.MICHAEL.BOHNERT@SAP.COM)
JOEL RODRIGUES, PORTUGAL (JOELJR@IEEE.ORG)
KERIM KALAMUJIC, BOSNIA HERZEGOVINA
(KERIM.KALAMUJIC@HOTMAIL.COM)
MARKO JAGODIC, SLOVENIA (JAGODIC.MARKO@GUEST.ARNES.SI)
JACOB BAAL-SCHEM, REG. 8 HISTORY ACTIVITIES COORDINATOR, ISRAEL
(JACOVBAL@013.NET)



A publication of the
IEEE Communications Society