
Global Communications Newsletter

April 2003

2002 Annual Report of the St. Petersburg IEEE Joint Chapter of Broadcast Technology, Communications, and Circuits and Systems Societies

Activity of the Chapter in Cooperation with Other Organizations

The Fourth International Conference on Broadcast and Communications, Russia, was held in Moscow at the Sokolniki Exhibition Center, 13–15 February 2002. More than 100 papers were delivered at the conference, and more than 1500 visitors attended it. The Chapter was responsible for coordination of all main issues concerning preparation of this conference except for financial and business matters. Chapter Chair Dr. Dmitry Tkachenko was the Technical Program Chair for this conference.

Presentations on future trends in communications were made by the Vice President of the IEEE Communications Society, Dr. Alexander Gelman, at both St. Petersburg Electrotechnical University and St. Petersburg State Technical University on 1–2 April 2002. About 20–30 participants (including students) attended each of these presentations.

A tutorial and an overview, “Video Test and Measurement Equipment — Analog and Digital” and “Basic Presentation of Tektronix Solutions on Testing and Monitoring MPEG/DVB-Compliant Communication Channels,” were delivered by a representative of Tektronix, Mr. Florin Vasilu, on 22 April 2002 at the MART company in St. Petersburg. Dr. Alexander Artamonov, an active member of the Chapter, organized this event for members of the Chapter and other interested persons. About 25 specialists attended this presentation.

A meeting of IEEE members and conference organizers was held at the Second International Conference on Television: Transmission and Image Processing (St. Petersburg State Electrotechnical University, 21–22 May 2002). IEEE Communications Society Vice President Dr. Alexander Gelman and the Chairman of the International Association of Broadcasting Manufacturers, Martin Salter, attended this meeting. The conference program included about 50 papers.

The Third Telecommunications Symposium on Mobile Communications — Advanced Technologies and Services was held in St. Petersburg, 5–7 June 2002. Twenty-two papers were delivered at the symposium. Active members of the Chapter Prof. Mstislave Sivers and Dr. Alexander Pasmurov were key organizers of this symposium.

Together with other St. Petersburg IEEE Chapters,

members of the Chapter took part in the seminar on microelectronics delivered by Prof. Vijay Arora (Division of Engineering, Wilkes University, United States) on 13 June 2002 at St. Petersburg Electrotechnical University. The seminar consisted of four presentations and a meeting of IEEE members.

The First IEEE International Conference on Circuits and Systems for Communications was held in St. Petersburg on 26–28 June 2002. The conference was sponsored by IEEE Communications Society (thanks to Prof. Trevor Clarkson) and technically co-sponsored (including financial support) by the IEEE Circuits and Systems Society (thanks to Prof. Rui de Figueiredo). The conference officially carried the IEEE logo, and the Program Committee selected about 80 percent of 140 submitted papers from 28 countries. Most of the organization of the conference was done by Chapter Vice Chair Prof. Alexander Korotkov, who was Chair of the Technical Program Committee. The conference was headed by two co-chairs, Prof. Rui de Figueiredo (University of California, Irvine, USA) and Prof. Vagan Shakhguldian (Moscow Technical University of Communications and Informatics, Russia). Among the participants and speakers at the conference were the President of the IEEE Circuits and Systems Society Prof. Josef Nosssek, IEEE Region 8 Director-Elect Prof. Anthony Davies, and other IEEE officers and volunteers.

The IEEE meeting and welcome reception for IEEE members and participants at the conference was organized by the Chapter thanks to the financial support of the IEEE Communications Society on 26 June 2002 in St. Petersburg. About 100 conference participants and IEEE members attended the meeting and reception.

Together with other local IEEE Chapters, the Chapter took part in the joint seminar on power electronics of St. Petersburg IEEE Chapters and scientific network NORFA that was held on 18 November 2002 at St. Petersburg State Electrotechnical University. The seminar consisted of three presentations and a meeting of IEEE members.

Chapter Chair Dr. Dmitry Tkachenko took part in the meetings of the IEEE Broadcast Technology Society (BTS) Administrative Committee on 9 April 2002 (Las Vegas, Nevada, United States) in the framework of the NAB exhibition/conference and on 9 October 2002 in the framework of the IEEE Broadcast Symposium (Washington, DC, United

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Australia/New Zealand Distinguished Lecturer Tour "Down Under"

September 2002

Wireless Multimedia Communications: A Telepresence Paradigm for Anyone, Anywhere, Anytime, or the Dawn of the World Wide Wait?

By Lajos Hanzo

Well, it all started in the runup to GLOBECOM '98 in Sydney, when Prof. Kevin Sowerby from the University of Auckland asked me whether I would be able to partake in a pre-GLOBECOM colloquium in Auckland. While this plan regretfully did not materialize, Kevin kindly extended another opportunity to me during GLOBECOM 2001 in order to facilitate an exchange of ideas between our teams. The planning of the trip gathered further momentum when a few more IEEE Chapter Chairs from the Australia/New Zealand Region approached me with similar requests. More precisely, to both my honour and delight, all nine Chapters in this region were interested in a potential exchange of ideas during my IEEE DLT of the region.

Against this backdrop my sweet predicament was that of finding the time for this marathon trip down under! It turned out that even if I traveled vast distances every day, realistically I could only fit the trip in at the cost of cutting short my annual break during the summer and sacrificing my attendance at GLOBECOM in Taipei. But planning was well underway. Fortunately the university's travel agency skilfully organized the logistics of the trip, so in Adelaide, Christchurch, and Sydney I was able to offer a number of specialist research-oriented lectures in addition to the broader overview lectures delivered for a wider audience in all the visited locations.

I presume most professionals, who have more commitments than time and travel extensively as part of their daily activities, have the same ambivalent feelings about travel. It is both necessary and fun, but we pay a price in terms of an impulse-like workload surge both before and after the trip, despite also working hard throughout the trip. Well, in addition to the laptop PC I ended up having to take a batch of urgent work with me, which I completed on the plane to Singapore while the other passengers enjoyed watching those just-released movies I never get to watch.

Following a productive but rather tiring, nearly 24-hour trip to Perth I was greeted by the local Chapter Chair, David May, at the airport. I was very grateful to David, since his kind hospitality cushioned my landing and helped me stay awake until early evening. I had to adjust to eight hours time difference and get ready for a full day's program on the following day, which was the first official day of my DLT. I was greeted by Professors Zoubir and Chung and Dr. Keerthipala at Curtin University of Technology. Our discussions centered on research as we involved the team of Ph.D. students engrossed in a whole host of cutting-edge signal processing and wireless communications problems. It was a truly enlightening experience. My evening lecture hosted by Western Power was followed by a range of technically motivated chats, and I was very grateful for the top-of-the-range multimedia lecture theatre, allowing me to duly augment the power of multimedia and telepresence. I was also privileged to share ideas and experiences related to collaborative industrial and academic research with Prof. Sven Nordholm, research director of Australian Telecomm's interuniversity cooperative research center.

As in Perth, in Adelaide I also had a busy schedule. While my tour was organized by ComSoc, with the local ComSoc's consent in Adelaide I was also asked by the Information Theory (IT) Society to offer a detailed research lecture on Coding

and Transmission Paradigms for Dispersive Wireless Channels. I am very grateful to Dr. Adrian Barbulescu, Dr. Alex Grant, Prof. Lars Rasmussen, Dr. Peter Shoubridge, and their teams for the enlightening exchange of ideas we enjoyed. Thanks to Dr. Ahmed Hasem-Sakhtsari, I was also able to briefly visit the Human Systems Integration Group of the Australian Defence Science and Technology Organisation (DSTO) before my departure to Melbourne in yet another time zone.

The overview presentation was well attended in Melbourne. Several representatives of TELSTRA, one of the largest wireless service providers in Australia, were present, and my hosts were Craig Skinner, the current Chapter Chair, and Enn Vinnal, the previous Chair. Academics and Ph.D. students from both La Trobe and RMIT University also enriched the diversity of the audience and contributed to the concluding discussions. What a memorable evening I shared in Melbourne with Craig and Enn, as we strolled along the waterfront in that mellow spring-time dusk.

My flight to Canberra landed on Saturday afternoon, and I was ready to catch up on the past week's lost sleep. Thanks to Robert Prandolini, I was privileged enough to finally be able to immerse myself in that wild and wonderful Australian bush, taking snapshots of kangaroos, emus, koalas, cockatoos, wallabies, and other weird and wonderful southern creatures — a truly delightful day. My overview lecture was attended by an interesting variety of people from across the local academic and industrial community, from the DSTO, Australian National University, and other institutions.

Sydney and the New South Wales Chapter are likely to have the largest wireless communications community in Australia. Hence I was requested by Dr. Philip Ogunbona, the local Chapter Chair, to provide a research outlook on code-division multiple access (CDMA) systems. The lecture spanned the whole afternoon, and was entitled "Advances in CDMA." It covered future-proof adaptive MC-CDMA, space-time spreading, genetic algorithm-aided multiuser detection, coded modulation, and all that.

The lectures in Sydney took place at the University of Technology, known as UTS, kindly hosted by Prof. Sam Reisenfeld. Professors Branka Vucetic, David Everitt, Abbas Jamalipour, as well as their colleagues represented the University of Sydney. Academic colleagues from the University of New South Wales (UNSW) and industrial colleagues from CSIRO, Lucent, Motorola, Telstra, and other companies also contributed to the ensuing in-depth discussions. My sincere thanks are due to all my valued colleagues; these informative debates more than compensated for missing the chance of that intoxicating view from Centre Point for the second time. I nonetheless managed a round-trip on the monorail for a quick bird's eye view of Sydney!

Off I went to warmer regions of Australia: Brisbane and Townsville were next on my agenda. Queensland University of Technology (QUT) hosted the DLT presentation, and a mixture of strategic as well as technical issues of wireless communications were debated after the lecture. Our discussions with my hosts, Profs. Miles Moody and Sridha Sridharan, touched on the problems of integrating face recognition techniques designed for the MPEG4 video codec's object-

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Message from the Editors

By Joan García-Haro, Editor, and Francisco J. González-Castaño, Associate Editor

The purpose of this message from the Editors is twofold: to contact *GCN* readers directly once again, and to explain the evolution and scope of *IEEE GCN* to them as a long-term project.

The scope of *GCN* as a transnational *IEEE Communications Magazine* section has to be necessarily broad by nature, but, of course, must maintain its telecommunications-oriented sense and quality. Indeed, it is open to contributions from any reader with projects, information, and knowledge relevant to communications.

GCN is a descriptive, concise, and immediate way for the dissemination in an informal style of information about stimulating projects, applications, and ideas of general interest, and a forum for dialog on telecommunications-related topics of current interest. However, in light of our editorial responsibility, we are detecting an unavoidable bias toward topics picked by our Regional Correspondents and related contribu-

tors. This means a potential reduction of the globality goal we are pursuing.

For these reasons we include in this message a CFP to remind our readers of the global and open extent of *GCN*, and the desirability of broadening the range of contributions to appropriately increase the diversity of articles of interest. We consider that a good test of the success of a *GCN* article is to answer affirmatively the question of whether a *GCN* reader can extract information from a short paper that will improve her/his knowledge and increase her/his curiosity.

An affirmative response will also ensure our success as Editors.

Thank you very much for your consideration, effort, and help.

Joan García-Haro, Editor

F. Javier Gonzalez-Castaño, Associate Editor

Call for Papers

Global Communications Newsletter (GCN) seeks original papers of general interest in the field of communications and related areas.

GCN topics include, but are not limited to:

- National and regional developments in communications technologies, services, markets and standards
- Pilot experiences in communications
- Communications research and development
- Reports on national and international large-scale projects (e.g., NSF, EU IST)
- Telecommunications convergence, regulatory, and legal matters
- Information and knowledge society
- New applications of communications in politics, health, education, commerce, security and defense, surveillance, agriculture, standard of life, handicapped people care, industry, tourism, space, transportation and navigation, environment, sustained development, globalization, and so on
- Research trends
- Market trends
- Historical perspectives in communications
- Education in communications
- Reports on key workshops or conferences
- ComSoc Chapter activities

Authors willing to present research results in communica-

tions are encouraged to avoid exhaustive or theoretical descriptions and focus on the general interest of their work. In that case, they should cite the sources (project URLs, journals, conference proceedings) where detailed descriptions can be found.

Authors willing to submit reports on workshops or conferences are especially encouraged to do so in case of IEEE-backed ones, although *GCN* is open to disseminate the conclusions of any event in the field of communications.

Please check previous issues in *IEEE Communications Magazine* or contact Joang.Haro@upct.es or javier@det.uvigo.es if there are any questions about the suitability of a paper.

Prospective authors should prepare their manuscripts preferably in plain ASCII or MS Word format, with a maximum length of 1.200 words, and send them to either of the submission addresses below. MS Word files may have pictures and tables embedded (subtract 200 words per each figure/table). Alternatively, provide them as separate files using any standard coding. Only send screen dumps if strictly necessary, since they will be subjected to a minimum resolution of 300 dpi in the final version.

Submission addresses:

Dr. Joan García-Haro (Editor): Joang.Haro@upct.es

Dr. Francisco Javier González-Castaño (Associate Editor): javier@det.uvigo.es

Australia/New Zealand Distinguished Lecturer Tour

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oriented coding mode with wireless transceivers and on other related forward-looking wireless applications using Global Positioning Systems (GPS). Prof. Sridharan might like to follow up our discussions by delegating some of his Ph.D. students to my research team in Southampton, United Kingdom, for cross-fertilizing our ideas in more tangible terms. It was a pleasurable experience to be able to address a wide variety of interested parties, including local researchers and students of QUT, as well as those from further afield, such as academics and researchers of the Gold Coast University and Queensland University. A further interesting feature of my overview lectures was that numerous business development managers and academic col-

leagues from information management as well as e-commerce departments were consistently represented in the audience. I presume this is good news for both future businesses and students alike.

Enriched by a host of new experiences, I continued my marathon trip to Townsville, the last Australian Chapter on my agenda. My hosts, Profs. Janina Mazierska and Keith Kikkert, introduced me to their various teaching and research activities at James Cook University, where most of the research is focussed on satellite communications. It was a delight to meet Ron Goodwyn, a graduate of the department in Townsville and a local IEEE committee member,

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Australia/New Zealand Distinguished Lecturer Tour

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taking an active interest in popularizing electronic engineering among his college students. A further impressive Townsville speciality is that Prof. Kikkert prepared an MPEG-compressed video CD of the DLT presentation for distribution to their remotely based members. There was just enough time for a pep talk with the students while imbibing a drop of local red wine with cheese, and for a wink of sleep, since I had a 4:30 a.m. wake-up call to catch my flight to Auckland.

New Zealand was a new country for me! What a lovely consolation for all this traveling. I was greeted by daffodils, rhododendrons, azaleas, and magnolias in a stunning floral display and, having come from England located in the Northern Hemisphere, this year for the second time! The joy and exuberance of the wonderful English spring shriveled down my spine. Following an afternoon of discussions with Profs. Michael Neve and Kevin Sowerby as well as with their team, we rounded off the day with spectacular views of Auckland by night from the Sky Tower, the tallest manmade construction in the Southern Hemisphere, at least until its replica was erected in Macau.

Well, the gardens of Christchurch are even more reminiscent of England than those in Auckland. After my arrival I had just sufficient time for a brief email session and to put my suit on it was lecturing time again. Professor Lee Garth and Harsha Sirisena resourcefully improvised, with the aid of their associates, furnishing all the multimedia players necessitated by my presentation. The discussions continued after the lecture well into the late evening. The second requested lecture was on recent advances in coded modulation assisted multiuser detection aided CDMA and on

space-time spreading. Refreshments consumed with senior members of the department in the staff club situated in the wonderful botanic garden rounded off the last leg of this marathon journey.

Enriched by a wealth of new experiences, friends, and colleagues, it is time to finally live up to all those promises I made to both my colleagues back home in the office as well as to those further afield, out there in cyber space.

All that remains for me is to express my heartfelt gratitude to our professional body, the IEEE, for their support of this lecturing tour. My sincere hope is that it will be considered as one that in a modest way contributed toward membership development and keeping the ComSoc community abreast of recent developments and trends in wireless communication, but above all that it forged further links across the community, the fabric of the IEEE. I look forward to being of further service to my professional body, but next time I just might aim for a less comprehensive tour, wherever that may take me in other remote corners of the globe.

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States). These trips were financially supported by the IEEE BTS. Both meetings gave the opportunity for the Chapter to be more involved in IEEE activity and to establish new contacts with other Chapters and BTS officers and volunteers. The technical information from these conferences was very valuable for our Russian colleagues.

Future Events with Participation of the Chapter

— The Fifth International Conference on Broadcast and Communications (Moscow, Sokolniki Exhibition Center, 10–13 February 2003). The conference sessions will be prepared in association with the International Broadcasting Convention (IBC), which organizes a well-known broadcast exhibition and conference in Amsterdam. The conference sessions will be organized in three tracks. The special session, “IBC Presents an International Perspective of Global Broadcasting Issues” (11 February 2003), will fully consist of IBC speakers.

— The Fourth Telecommunication Symposium on Mobile Communications — Advanced Technologies and Services (St. Petersburg, 9–11 June 2003).

— The Conference of Saint Petersburg IEEE Chapters (St. Petersburg, 10–12 June 2003).

— Possible participation in organizing a special session on broadband systems at the International Symposium on Signals, Circuits and Systems (Iasi, Romania, July 2003).

— Participation in the Regional Chapter Chairs Conference of the EAME Region Chapters of the IEEE Communications Society (Rimini, Italy, 22–23 September 2003).

— A number of seminars on implementation of digital TV and radio are going to be held in St. Petersburg at the premises of the MART company and will be reported to the IEEE BTS.

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JOAN GARCIA HARO
Editor

Department of Information Technologies and Communications
Polytechnic University of Cartagena
ETSIT

Campus Muralla de Mar s/n
30202 Cartagena, Spain
Tel: +34-968-325314
Fax: +34-968-325338
E-mail: joang.haro@upct.es
gcn@comsoc.org

FRANCISCO JAVIER GONZALEZ CASTAÑO, Associate Editor
JACOB BAAL-SCHEM, Chapters Corner Editor

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