Global
Communications
Newsletter

February 2001

The IEEE History Center

By Michael N. Geselowitz, Director of the IEEE History Center, USA

IEEE Sponsors at Rutgers University, in New Brunswick, New Jersey, USA, the IEEE History Center. The mission of the Center is to preserve, research, and promote the history of computer and electrical technologies. The Center is an information clearinghouse and maintains many useful resources for the engineer, for the historian of technology, and for anyone interested in the development of electrical and computer technologies and their role in modern society. The Center is physically located about five miles form the IEEE Operations Center in Piscataway, New Jersey. Rutgers, which is the State University of New Jersey, also supports the Center. Most of the Center's support comes from the operating budgets of these two parent organizations, and from a quasi-endowment which was created in 1996 by large donations from the IEEE general fund and the IEEE Foundation. Since then the endowment has received many smaller donations from the IEEE Societies, Foundation, Life Member Fund, Sections, and individual members, as well as from industrial organizations. The remaining support comes primarily from contracts and grants and annual gifts from individuals.

The Center is concerned with the history of all areas of electrical, electronic, computing, and information technologies in all periods of history and in all parts of the world. Because of the small amount of scholarship on more recent topics, and because of the fleeting opportunity to preserve the memories of our leading engineers from the second half of the 20th century, we have been giving our greatest attention to developments since World War II. To undertake this mission, the Center has three main program areas: outreach and education; historical research and publication; and collection of historical sources.

The public outreach program spreads awareness of the importance of the history of electrical and computing technologies primarily through its Web site (http://www.ieee.org/history_center), but also through a newsletter, exhibits, conferences, lectures, reference services, and a program honoring important historical achievements, the IEEE Milestones Program. The Milestones Program, overseen by the IEEE History Committee, enables IEEE Sections to have recognized historical achievements that occurred within their territory. This fosters pride in the Section members while giving them an opportunity to remind the local community how engineers contribute to society. The audience for outreach therefore includes journalists, decision makers, engineers, and the general public, but some components are geared toward a pre-college audience and the educators that serve them. For example, the Center is currently beginning a major initiative to build an IEEE Virtual Museum on the World Wide Web. It is slated to open in early 2002. Through its Rutgers connection, the Center also works with college undergraduates, and trains professional graduate-level historians through teaching, assistantships, fellowships, and internships.

The historical research program produces popular and scholarly books and articles, particularly on IEEE technologies and the role of IEEE Technical Societies in their development. The Center works closely with IEEE Technical Societies, often assisting them in preparing materials for

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Recent Activities of the Jamaica Chapter

By Dennis Hartley, Jamaica

The Chapter is committed to the transfer and dissemination of technology. We strongly encourage local engineering research and development, so as to assist the decision makers to determine solutions to engineering problems. One of the methods that will be deployed to achieve these objectives is to organize presentations on relevant topics.

For this year we have had three meetings. In April, the meeting presentation was on Frame Relay and in June it was Asynchronous Transfer Mode. On Wednesday, 18th October, the meeting was a Distinguished Lecture Presentation by Dr. Salah Aidarous. Dr. Aidarous is a member of the IEEE Communications Society Distinguished Lecture Tour and his topic was "Internet Protocol (IP) Networking: Opportunities and Challenges".

This presentation was advertised in the two main newspapers in Jamaica on Sunday, 8 and 15 October. Also, there was a radio interview on Tuesday, 17 October with Dr. Aidarous and Jamaica Section Chair Dr. Halden Morris. This interview was by POWER 106 in Jamaica. The presentation was well received and the attendance register recorded 105 persons.

Discussions are in progress to insert a link on the Jamaica Section's Website to the Communications Society Jamaica Chapter. This link is to provide current information relating to activities in the Communications Society.

This Chapter was formed November 1998, and the current officers are Dennis Hartley (Chair), Winston Smith (Vice Chair), and Winston Browning (Secretary/Treasurer). The Nominations Committee has produced a slate for the Society's Executive Committee for 2001. Communications Society members have been urged to participate in this democratic process.

The first Regional Chapter Chair Congress (RCCC) was held in November at GLOBECOM 2000 in San Francisco, California, and Jamaica was represented.

Report on Manu Malek's ComSoc Distinguished Lecture Program

By Carole Swaim, ComSoc Headquarters, USA

The Distinguished Lecture tour to the United Kingdom, Bulgaria, and Greece happened during 9–13 October, 200. It was initiated by the IEEE ComSoc Bulgaria Section whose invitation came in May 2000. With the guidance of Prof. Trevor Clarkson (the IEEE ComSoc coordinator for the EMEA Region) and help from Carole Swaim (IEEE Headquarters), the Bulgaria Section contacted other ComSoc chapters in the region: Greece, Romania, and Yugoslavia. The Greek section responded, but the response from the other two regions was delayed. Then Prof. Clarkson invited Manu Malek to stop over in London instead. An invitation finally came from Yugoslavia in late July; however, the travel plans had been finalized.

Manu Malek reports: It was a great trip and I enjoyed it. Following are the highlights:

1. The U.K. stay was short (one day: 10/9/00). The host was Prof. Trevor Clarkson of King's College. About 40 people attended my talk, entitled "Network Management: Market Drivers, Technical Issues, and Trends." The audience included students and faculty members (some IEEE and some IEE members), mostly from King's College, but some also from other colleges of the University of London. The talk took about one hour, followed by about 45 minutes of Q&A.

2. The Bulgarian host in Varna during 10/10–12/2000 was Prof. Peter Antonov (IEEE ComSoc Bulgaria Section Interim Chair). However, due to the language barrier, Prof. Jordan Kolev (IEEE Bulgaria Section Chair) did most of the hosting, as did Prof. Ognian Zhelezov, IEEE ComSoc Bulgaria Section Interim Secretary. I presented two keynote talks during the opening day of Telecom 2000, an annual conference held in Varna, organized by Union of Scientists in Bulgaria, the Ministry of Transport and Communications, Bulgaria Telecommunications Company, and the Union of Electronics, Electrotechnology and Communications. The talks were entitled "Network Management: Market Drivers, Technical Issues, and Trends" and "E-Commerce: Market Aspects and Supporting Technologies." The talks were attended by more than 100 people (some IEEE and some non-IEEE members form academia, industry, and government). Simultaneous translation into Bulgarian was provided.

3. The host in Athens during 10/12–14/2000 was Dr. Athanasios Kanatas of National Technical University of Athens (the IEEE ComSoc Greek Chapter Chair). The program included a visit to some NTUA laboratories. The event had been widely publicized in NTUA and other universities in Athens. Although only my Network Management talk had been advertised, at Dr. Kanatas' urging a shortened version of my E-Commerce talk was presented. The talks, which were presented at the NTUA's multimedia center, took about one hour, followed by 20 minutes of Q&A, and were attended by about 40 people including students and faculty members (and an IEEE member who had traveled from Thesoloniki for the event).

Files containing the talks were sent to respective hosts ahead of time, and hard copies of the slides were provided to members of the audience in each location.

Manu Malek's DLT was highly appeciated and brought valuable contributions to the audience.

Report on the United Kingdom and Republic of Ireland Section

By Trevor Clarkson, United Kingdon

The United Kingdom and Republic of Ireland Chapter currently has 1701 members, although not many of these are actively involved. The new student member initiative has added around 40 student members.

Events

The following events have taken place in the past 12 months.

- 24 October 2000, "Optical Communications: The Way to Terabit Transmission and Networking," seminar by Prof. Heinz Doring, University of Mittweida, Germany, at King's College, London.
- 23 October 2000, "Optical Communications: The Way to Terabit Transmission and Networking," seminar by Prof. Heinz Doring, University of Mittweida, Germany, at University of Swansea.
- 9 October 2000, "Network Management: Market Drivers, Technical Issues and Trends," lecture by Manu Malek, at King's College London. Part of a Distinguished Lecture Tour.
- 18-21 September 2000, The 11th IEEE International Symposium on Personal, Indoor and Mobile RadioCommunication (PIMRC 2000), Hilton London Metropole Hotel, U.K.
- 13 June 2000, "Principles of Space-Time Coding," lecture by Prof. BrankaVucetic, at King's College London.
- 11 April 2000, "Error Resilient Image/Video Coding over Mobile Communication Channels," seminar by Dr. King N. Ngan, University of Western Australia at King's College London.
- 27–29 March 2000, IEE International Conference on 3G 2000 Mobile Communication Technologies, Hilton London Metropole Hotel, UK.

The largest attendance at a seminar was 47 people; normally 25 or 30 persons attend. Over 575 people attended PIMRC 2000, which is expected to return a small profit.

Prizes

The UKRI Communications Chapter Project Prizes of £100 each were awarded to 16 students this summer. We plan

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Report on CAMAD'2000-12-29
By Nelson Fonseca, Brazil

The 8th Computer-Aided Modeling Analysis and Design of Communications Links and Networks (CAMAD 2000) was held in New Orleans on June 18, 2000, jointly with ICC 2000. CAMAD 2000 was chaired by Mike Devetsikiotis from North Carolina State University, Mike put together a very interesting program, bringing together people from industry and academia. Among the topics discussed in the workshop were Internet emulation and simulation, parallel network simulation, optical and wireless network simulation, and traffic modeling. There was also a software demonstration from COMNET. The workshop was finalized by a fruitful discussion about the state of the art in modeling and simulation of networks and links.

CAMAD is a traditional biannual event sponsored by the Communications Systems Integrations and Modeling Technical Committee and has been held in the United States, Canada, Italy, and Brazil. CAMAD 2001 will be held in either China or the United States.

For further information, please visit the CAMAD2000 Web page at www.dcc.unicamp.br/~nfonseca/Camad00.html

2nd International Symposium on Turbo Codes & Related Topics

By Ramesh Pyndiah

The 2nd International Symposium on Turbo Codes and related topics (ISTC) was held on September 4–7, 2000 at the Quartz conference center in Brest, France. As with the first one, this second symposium was also organized by the Electronics Department and the Signal and Communications department of ENST Bretagne. This symposium received the technical sponsorship of the Information Theory (IT) Society, Communications Society (ComSoc), and Union of Radio Sciences International (URSI). It also received the financial support of local authorities (Région Bretagne, Communauté Urbaine de Brest, Conseil Général du Finistère) and industry (EUTELSAT, France Télécom, ALCATEL, Mitsubishi Electric, and TURBO Concept), which has significantly contributed to balancing the financial results of the symposium.

There were 302 participants at this second symposium with more than 70 percent coming from outside France. Twenty-seven countries were represented at the symposium with strong delegations from the United States (47) and Germany (23). A significant number of students (62) also attended the symposium. It is important to note that the number of attendees doubled with respect to the first symposium in 1997, and many of those present at the first symposium attended this second one. Furthermore, industry accounted for more than 40 percent of the participants.

The symposium had 11 oral sessions with 13 invited papers and 30 regular papers presented, and two poster sessions with 40 papers each (123 papers in total). A large number of contributions focused on the design and implementation of turbo codes (convolutional turbo codes, block turbo codes, low density parity check codes, analog decoders, etc.), on the optimization of turbo codes (type of concatenation, interleaver design and component codes). A few papers addressed the extension of the message passing principle to other functions (turbo equalization, source channel coding, and space time coding). Among the new ideas introduced at the symposium, several contributions concerned irregular turbo codes.

The program along with the list of papers presented at the symposium can be found at http://www-turbo.enst-bretagne.fr.

Regarding social activities, cocktails were offered by the mayor of Brest on Monday night, and again by ENST Bretagne on Tuesday night with Breton music and dancing, and a visit to the bay of Brest and Oceanopolis was organized on Wednesday afternoon, followed by a banquet.

To conclude, this second symposium can be considered a success from the organizer's point of view given the number of participants, which has nearly doubled, the number of countries represented (27), and the fact that we have been able to cover all the costs. It is important to stress the large participation of members of the industrial community, which shows that the turbo code technology has matured. This is supported by its adoption in different standards (CCSDS, 3GPP, DVB-RCS, IEEE 802.16, BRAN, etc.). However, there are still many challenges regarding the extension of the message passing principle to other fields, and there is still a lot of work for the academic community.

Communications Chapters Activities in Eastern Europe

By Jacob Baal-Schem, Region 8 ComSoc Chapters Coordinator

For many IEEE members — especially outside North America — "the Chapter is the Society." Most of them have never attended any major Society Conference and their contact with the Society is mainly based on receiving (after a long delay) technical publications and participating in local activities of their Chapter.

This is especially true in Eastern European countries, where salaries are low, and therefore the possibilities of attending Conferences are limited. On the other hand, IEEE members in these countries are eager to get technical information and to make contacts with peers, locally and globally.

This is where the Technical Society Chapter fulfills its purpose: to provide local and global contacts for interested professionals. This is also the reason the number of ComSoc Chapters in Eastern Europe countries has grown tremendously in recent years.

Actually we have in Eastern Europe the following Communications Chapters:

- Three Chapters in Russia: Moscow, St. Petersburg, and Novosibirsk
- Two Chapters in Poland: Warsaw and Krakov
- A Chapter in Budapest, Hungary
- A Chapter in Ljubljana, Slovenia
- A Chapter in Belgrad, Yugoslavia
- A Chapter in Zagreb, Croatia
- A Chapter in Varna, Bulgaria
- A Chapter in Cechach, Czechoslovakia
- A Chapter in Bucharest, Romania
- A Chapter in Skopje, Republic of Macedonia

All these Chapters are very active in organizing technical meetings, and most of them contribute to the technical activities of their national Societies as well as to IEEE Regional events. IEEE Region 8 and ComSoc assist these Chapters, mainly by organizing technical meetings and the participation of lecturers in local meetings. One of these events was the Internet Conference organized by ComSoc Region 8 and the Moscow Communications Chapter, held 25–28 September 1999.

On November 2000, a delegation of officers from Region 8 participated in TELFOR 2000, the Eighth Telecommunication Forum of the Yugoslavia Telecommunications Society, whose Chair is Prof. Dr. George Paunovic, Chair of the Yugoslavia IEEE Section and the Belgrade Communications Chapter. The Region 8 group consisted of Kurt Richter, Region 8 Vice-Chair Technical Activities, Baldomir Zajc, Regional Conference Coordinator, Philip Constantinou, Chair of the Greece Communications Chapter, and Jacob Baal-Schem, Region 8 Communication Chapters Coordinator.

More than 1000 telecommunications engineers and officials of telecom companies gathered at this event, held at the Conference Center of Belgrade, and listened to the opening remarks of the newly nominated Minister of Telecommunications of Yugoslavia. The Conference continued with two days of parallel technical sessions, and with exhibition of equipment and software by international and local companies, who financially sponsored the holding of the Conference.

A special session was devoted to IEEE, including an introduction to the activities of the Region, the Section, and the Chapter, and a presentation of awards to local members. Thereafter, the members of the Region 8 group presented technical papers on theory and applications of telecommunications. These presentations were made from the same podium at which the recently elected Yugoslavia President was

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The Second International Working Conference on Active Networks

By Kenichi Yoshida, Japan

We are very happy to report the success of the Second International Working Conference on Active Networks, IWAN 2000. It was held 16–18 October 2000, in Tokyo, Japan. The IEEE Communications Society technically co-sponsors this conference series. The proceedings are published by Springer-Verlag as a volume of its Lecture Notes in Computer Science (LNCS 1653 and 1942).

Internet technologies continue to enhance the infrastructure of the emerging information society. The new developments increasingly affect both our personal lives and our work. In order to support this rapidly expanding infrastructure, various technologies are evolving. High-speed data transfer systems such as wavelength-division multiplexing (WDM) equipment and faster IP routers are the key solutions for the increasing quantitative demands. Active networks are the key solution to provide the required quality. By making network nodes programmable and intelligent, one can realize networks with highly sophisticated functionality. There is an increasing demand to find common denominators inwhat this functionality should be in medium- and long-term perspectives, and the best practice for its realization.

The first conference on active networks, IWAN '99, was held in Berlin in July 1999 with 30 highly suggestive papers. IWAN 2000 is the second workshop on this new area, and it also has 30 papers. The topics discussed in IWAN '99 covered wide research areas on active networks from architecture to applications. Although IWAN 2000 covered similar areas in essentials, a wider range of topics on applications, such as multicast control, QoS management, and Mobile IP, increased the productivity of the conference greatly. While there are still many presentations of research on architecture and basic issues, the increase of presentations on new applications represents the fact that the research status of active networks has begun to focus on practical issues.

We hope that IWAN will continue to be the center of the international community on active networks, and contribute to the research progress of this new area to realize the future-generation network architecture. Readers are invited to submit their work and attend future IWAN conferences. Prof. J. M. Smith, University of Pennsylvania, is now working on the third IWAN, IWAN 2001, which will be held in Philadelphia in Autumn 2001. We will provide detailed information soon.

Global Communications Newsletter

www.comsoc.org/pubs/gcn

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EASTERN EUROPE REPORT/*(Continued from page 3)*

sworn in some weeks ago. Participants at this session showed great interest in the subjects presented, and many of them contacted the lecturers after the session for further information.

The highlights of Region 8 Communications Chapters activities in 2001 will be:

- The Communications Chapter Chairs meeting adjacent to ICC 2001, to be held in June 2001 in Helsinki, Finland.
- EUROCON 2001, IEEE Region 8 Conference on "Trends in Communications," to be held in Bratislava, Slovakia, in July 2001.

Both events will enable ComSoc members in Region 8, especially from East European Countries, to meet with peers worldwide and contribute to their professional development.

UK/IRELAND SECTION REPORT/*(Continued from page 2)*

to offer further prizes this year.

Communications Society liaison 6 UK&RI students received Student Travel Grants to attend ComSoc conferences in 2000.

A Regional Chapter Chairs' congress (RCCC) will be held in Helsinki in June 2001, with travel and accommodation funded by the Society. We expect to join with the Chapter Chairs from the other 30 Communications Chapters in Region 8.

Full information on all the above events can be found at http://crg.eee.kcl.ac.uk/comchap.html

IEEE HISTORY CENTER/*(Continued from page 1)*

anniversary celebrations. The Center is currently undertaking such a project for the IEEE Communications Society. The Center also organizes academic conferences and undertakes joint projects with other entities. A conference on the history of telecommunications is being planned for summer 2001. In all these endeavors, the Center uniquely brings together engineers and historians in the academic study of the history of technology.

To carry out these programs, the Center has a full-time staff of seven. Most of the Center staff are Ph.D. historians of technology. Also scientifically trained, the professional staff is well prepared to treat the technical as well as the business, economic, social, political, and cultural dimensions of the topics they investigate. The Center also employs graduate students who are preparing for professional careers in history. Those wishing to learn more about the Center are invited to visit its award winning Web pages at http://www.ieee.org/history_center.