Global Communications *Newsletter*

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International Workshop on Future Multimedia Networks and IP-based TV (FMN-IPTV 2011)

By Oscar M. Bonastre, Oscar Mayora and Federico Alvarez, Co-Chairs of FMN-IPTV 2011, Spain

The International Workshop on Future Multimedia Networks and IP-based TV (FMN-IPTV) took place on 10 April 2011 at the Shanghai International Convention Center, China, and was held in conjunction with the 30th IEEE International Conference on Computer Communications (INFOCOM 2011). This scientific event was organized by Dr. Oscar M. Bonastre (Operations Research Center, Miguel Hernandez University, Spain), Dr. Oscar Mayora (CREATE-NET International Research Center, Italy), and Dr. Federico Alvarez (Technical University of Madrid, Spain).

FMN-IPTV was a half-day scientific workshop focused on the recent disruptions in the future media networks and how these will shape the IP-based television of the future. The workshop covered ample interaction, networking and discussion among participants on research topics of emerging trends in the area of seamless media delivery and how the networks, current and future, will support the converged multimedia. As a successful result, FMN-IPTV provided the community with those recent advances in IP video and IP-based Television that will impact the media networks of the future. Additionally, the special track of FMN-IPTV dealing with IP-based TV technologies was linked to the third edition of the International Workshop on IPTV Technologies and Multidisciplinary Applications (IWITMA). As a consequence, it was consolidated with the success of the last editions of IWITMA that were held in conjunction with the

IEEE International Conference on Multimedia and Expo (ICME 2010) and the International Conference in Telecommunications (ConTEL 2009), respectively.

In particular, the technical program of FMN-IPTV started with an opening session and a talk given by Co-Chair Oscar M Bonastre about Emerging Trends in Future Media Networks and IP-based TV. Then, six technical papers, accepted from a total of sixteen submissions, were presented through two sessions moderated by Dr. J. Liu (University of North Dakota, USA) and María Alduán (Polytechnic University of

The invited speaker Prof. Keith W. Ross giving the keynote at FMN-IPTV 2011.

Madrid, Spain), respectively. Next, Prof. Keith W. Ross (Polytechnic Institute of New York, USA) gave the keynote lecture, "You Can't Hide: On the Privacy of IP-Video." To finish, Co-Chair Oscar Mayora completed the workshop with a closing ceremony and the presentation the best workshop paper award to "Learning in User-Centric IPTV Services Selection in Heterogeneous Wireless Networks," authored by M. Khan, S. Marx (DAI-Labor, Technical University Berlin, Germany), and H. Tembine (SUPELEC, Paris, France).

As a final point to this short article, we want to thank all authors contributing to the technical excellence of FMN-IPTV 2011, and all the members of the Technical Program Committee for their effort in providing timely and constructive reviews, which ensured the scientific excellence of this international workshop. The success relied also on the valuable contribution of the invited speaker, who gave a high quality keynote, as well as promoted the participation of the attendees, who triggered many lively discussions. We hope the event fulfilled the expectations of the workshop participants and audience of INFOCOM. Special thanks go to the sponsors of the workshop. FMN-IPTV was supported by the European Union through the project NextMEDIA, and by the Ministry of Science and Innovation (Spain) through the project "Game theory applications to resource management and socio-economic problems" (MTM2008-06778-C02-01 and ACOMP/2011/129).

The FMN-IPTV 2011 General Chairs Oscar M Bonastre and Oscar Mayora with keynote speaker Prof. Keith W. Ross

20 Years of Innovation through Collaboration: The 20th Anniversary of Eurescom

By Milon Gupta, Eurescom

This year Eurescom, the European management company for collaborative R&D in ICT, celebrates its 20th anniversary.

For humans today, 20 years is a very young age. In the fast-changing ICT sector, however, 20 years is a long time in which fundamental technological changes with deep socio-economic impact can happen.

The past 20 years have been the most dramatic in the field of personal communications, particularly due to the rise of the Internet. Never before in the history of the planet has so much information been available to so many people. This communications era is being pushed by young Internet companies like Google (age 12) and Facebook (age 7).

However, some parts of the revolution we see today have come from the traditional communications providers, and Eurescom had its share in facilitating this. As Eurescom celebrates its 20th anniversary in 2011, the company can look back on 20 busy years stimulating and facilitating technological progress in the European telecom sector.

Eurescom premises in Heidelberg, Germany.

On 14 March 1991, Eurescom was founded by 20 major European telecom network operators in Heidelberg, Germany. In the new context of liberalised telecom markets, leading European telcos saw the need to explore technological challenges and opportunities of common interest via a joint organization. Eurescom became the initiator, knowledge exchange platform and project management organization for hundreds of projects that helped telecom operators keep pace with the technological development. Hot topics in the early days were interoperable European ISDN, ATM broadband solutions, new service areas, standards for DECT, and the design of network management systems. Later, the development of new services and applications for mobile and fixed networks as well as specifications in the Internet domain were added to Eurescom's fast-growing project portfolio.

The bursting of the Internet bubble in 2001 changed the landscape for Eurescom. Its economically hard-hit member companies in the telecom sector cut their research budgets for collaborative R&D and, in turn, they encouraged Eurescom to diversify its activities into professional project and program management in the open market. Since 2002, Eurescom has been an active player in the European Union's Framework Programmes, and in 2003, Eurescom was part of a core group initiating the first EUREKA Cluster on telecommunications called Celtic, this year succeeded by Celtic-Plus.

With the expertise of its multi-cultural and multi-disciplinary staff, Eurescom also has supported other R&D initiatives through its comprehensive management services and tools, for example the Wireless World Rese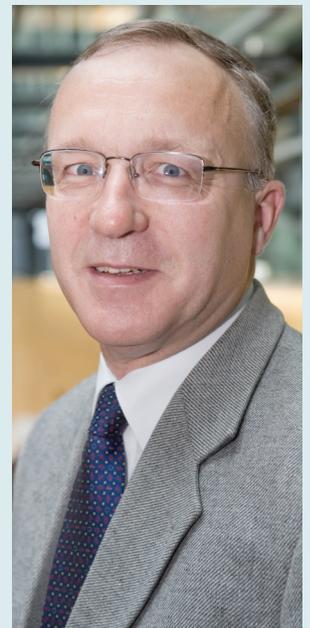arch Forum (WWRF), the Digital Media Project (DMP), and the recently founded Eureka Cluster for water management, ACQUEAU.

Since the early work of drafting the Bled Declaration on a European approach to the Future Internet in 2008, Eurescom has been a driver of the Future Internet initiative leading to the formation of the Future Internet Public Private Partnership. This FI-PPP is now being implemented as a dedicated subprogram under the EC's Seventh Framework Programme (FP7).

Although comparatively old at age 20 in Internet-industry terms, Eurescom has managed to adapt its business model and service offerings to the fast-changing challenges and opportuni-

David Kennedy, director of Eurescom since 2005.

ties. The company maintains core principles of delivering high value collaboration for innovation and understands well the importance of effective management for the success of innovative projects. Both skills – clever collaboration and management excellence – will be needed more than ever, in order to help private and public European ICT players explore and exploit the technological opportunities for the next 20 years and, thus, Eurescom plans many interesting projects and initiatives to help its customers stay globally competitive.
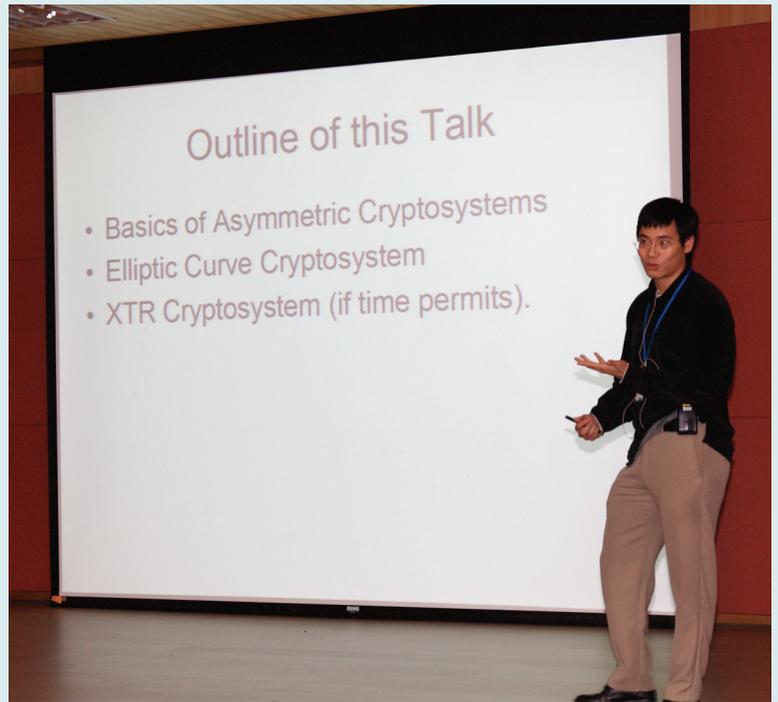
Report on the 2011 Taiwan Winter School on Information Theory and Communications

By Po-Ning Chen and Stefan M. Moser, National Chiao Tung University, Taiwan

On 17 January 2011, the first Taiwan Winter School on Information Theory and Communications, co-sponsored by ComSoc the Taipei Chapter, the ComSoc Tainan Chapter, and the IT society Taipei Chapter, took place at National Chiao Tung University. Started by Han Vinck and Rolf Johanesson in 1991 in Europe, this event has since expanded to North America and Africa, and now also to Asia. The main purpose of this school was to provide an opportunity for Taiwanese Ph.D. students and their advisors from different universities to meet and interact. Apart from one instructive plenary lecture, all presentations were given by Ph.D. students, and even though all talks were required to be in English in order to provide the students a chance to practice English presentations, it was not required to present perfect or complete results. To the contrary, the main emphasis was placed on the interaction between students and advisors, so as to offer a great opportunity for networking. To help with this goal, a very important part of the school were the social activities: a lunch buffet and a banquet dinner were included in the registration and served as an excellent platform for informal chats. This chance was well used — the dinner

Plenary talk by Scott Huang.

went on much longer than anticipated! To add further to the informal, comfortable atmosphere, the organizing chairs Prof. Chen and Prof. Moser performed a duet for guitar and clarinet during the dinner. In total there were over 50 participants (36 registered students, 10 professors, and a few nonregistered attendees) and many of them are active members of the ComSoc and IT societies. Prof. Scott Huang from National Tsing Hua University gave an excellent plenary talk about advances in cryptography. In order to increase interest in the presentations, all registered attendees and professors voted for two Best Presen-

tation Awards. These awards went to Mr. Jian-Jia Weng (Ph.D. student at NCTU) and Ms. Shu-Hsien Wang (Ph.D. student at NTHU). However, it must be mentioned that the presentations in general were of very high quality. In our eyes, this event has been a great success. We very much hope that the Winter School will become a tradition in Taiwan and even more students and their advisors will take the chance to participate in the future. For more information, a recording of the plenary talk, and many pictures we refer readers to http://moser.cm.nctu.edu.tw/winterschool/

Group photo of the Winter School.

The Evolution of Telecommunications in Brazil

By Marcelo S. Alencar, Univ. Federal de Campina Grande, Brazil

When father Roberto Landell de Moura, a Brazilian communications pioneer and inventor, filed his three patents in the United States in 1901, he would never dream of how big the Brazilian telecommunication market could grow.

In the first quarter of 2009, 212.4 million subscribers had access to telecommunication services, with 41.7 million subscribers of the fixed line telephony service and 153.7 million subscribers of the mobile communication service. GSM is the dominant technology. There were 6.6 million subscribers of cable television, 10.4 million subscribers of wideband Internet, and 64.8 million Internet users. More than 96 percent of the households have television sets.

In the first quarter of 2009, 96.6 percent of the population had access to mobile communication services, 80.4 percent were served by four or five telecom operators, 5.0 percent were served by three operators, 4.6 percent were served by two operators, and 6.6 percent were served by only one operator.

In 2009, a total of 85 percent of the municipalities were served by mobile telecommunication services. There were 8.4 percent of cities with cable television or MMDS. The gross operational revenue of the telecom sector estimate for 2009 was US$ 98.44 billion. The figure for 2008 was US$ 98.89 billion.

In 2010, 37.642 municipalities were served by the basic telephone service, and 97.1 percent of the population had access to mobile telecommunication services, which represents 86.7 percent of the municipalities.

Regarding the composition of the telecom market, in terms of gross operational revenue, the figures for the first quarter of 2009 were: industry segment, US$ 5.0 billion; fixed telephony companies, US$ 19.3 billion; mobile companies, US$ 16.5 billion; cable television companies, US$ 2.7 billion; and trunking companies, US$ 0.8 billion.

In 2008, 1,393 telecom companies operated in Brazil. This figure increased to 1639 in 2009. Among the licensed companies, six operate the fixed telephony service, 99 were authorized to operate in more than one concession area, 1,327 operate the multimedia communication service, and 31 operate the mobile communication service.

In 2009, there were 411.5 thousand employees in the telecom market, an increase of 19.5 percent from 2008, of which 37.8 thousand work in the industry, 50.6 thousand in deployment services, 144.2 thousand in telecommunication services, and 179 thousand in call centers.

In 2010, four or five telecommunication operators serve 78.6 percent of the population, three operators serve 6.2 percent, two operators serve 4.8 percent, and only one operator serves 7.3 percent of the population. The gross operational revenue for the telecommunications sector in the first quarter of 2010 was US$ 26 billion, an increase of 4.8 percent from the last quarter of 2009.

The number of telecommunication access in the first quarter of 2011 was 277.4 million, which includes fixed and mobile telephony, wired and wireless broadband, and cable television. This is an increase of 15.5 percent compared to the same period of 2010. Wireless broadband increased 77 percent, from 13.8 million to 24.4 million Internet accesses. Telephony grew from 179.1 to 210.5 million devices, a 17.5 percent increase.

Fixed broadband evolved 20.5 percent in the period, from 11.7 million to 14 million. Overall, the number of wideband connections, wired and wireless, reached 40.9 million in April 2011. The growth in television subscribers was 31.6 percent in 12 months. The total number of clients increased from 7.9 million to 10.4 million.

One final point to note is the amount of taxes the companies pay. The fixed and mobile companies together paid US$ 22.34 billion in taxes in 2007, which represented 42.0 percent of the net operational revenue, and was the largest percentage in the world. In 2008, the percentage increased to 42.7 percent, and in 2009 to 43.3 percent of the net operational revenue.

Father Roberto Landell de Moura.