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CONFERENCE REPORT

ComSoc Sister Society

The Forum for European ICT & Media Professionals (FITCE) Explores Smart Cities and ICT

By Edward Smith, FITCE UK

FITCE is a federation of national associations in each of its 10 member countries and is a Sister Society of the IEEE Communication Society (ComSoc). It allows its members to keep in touch with leading ICT developments and aspires to build strong cultural and business ties between European ICT (Information and Communications Technology) professionals. This is achieved by encouraging members to benefit from the experience acquired by other members in all ICT fields and in particular provide support to young professionals as they develop their careers.

FITCE organises an annual congress for improving information and knowledge exchange, communication, networking and relationships across members. This year's conference was held in Ghent and is described here, together with an overview of the activties of national organisations.

The FITCE Conference

The 58th FITCE congress was organized jointly with CTTE and held in Het Pand, part of the University of Ghent. There were 113 delegates from 14 countries, who enjoyed six technical sessions delivering 22 papers, three keynote speeches and a provocative panel session. The Congress was opened with welcomes from Prof. Piet Demeester (Ghent University), Raf Meersman (President of FITCE Belgium), and Dr. Stefan Rugel (President of FITCE Europe).

In her keynote speech, Sofie Bracke, of the City of Ghent, described the evolution of the field and the contribution from the commercial sector, the universities, the city and the Flemish government. Danny Goderis took the audience through some real examples of Smart City initiatives, including a program networking 200,000 meters in Antwerp and adding intelligence to the process of refuse collection. Stefan Rugel spoke about the globalized nature of the market, the role of strategic road maps and a data driven strategy and the citizen centric approach.

Het Pand at Ghent University, the location of the Congress.

The reception at Ghent City Hall.

The first technical session covered 5G for Smart Cities, with the first paper covering a smarter city in Luxembourg, enhanced by the launch of 5G. This was followed by a paper that considered using the Viterbi decoding trellis approach to find the most effective investment approach to deployment of 5G. Andrea Penza, from Italy, then described architectures for 5G, including the use of terrestrial broadband technology as base station backhaul. Finally the joint-rollout of FTTH and smart city fibre networks as a way to reduce rollout cost was discussed.

Smart Energy was the focus of the second technical session, first examining GIS based planning of broadband power line communication networks for smart metering. In the second paper a team from Deutsche Telekom addressed why and how a Telco enters the e-mobility market. IoT enabling technologies for extreme connectivity smart grid applications was the subject of the third contribution. Finally the techno-economic analysis of residential thermal flexibility for demand side management, within a smart grid deployment and the role of demand aggregation, was examined.

The focus of the third session was data for and by smart cities, and began with a paper covering the role of smart 3D mapping in providing the smart city. Two papers covering privacy followed: The first considered the role that enhancing collaborative transparency in the regulatory ecosystem played in establishing smart city privacy; the second described the social construction of personal data protection in smart cities. The road to data-driven local government was next examined.

The definition and adoption of the smart city was the topic of the next session, beginning with an Anglo-Italian paper covering a closer look at the future of smart cities. The next contribution asserted that being a smart city is not the goal and asked the question what is? The next topic examined the adoption of cooperative intelligent transport systems in Flemish passenger cars and incorporated a review of European policy options. The session concluded with a description of the "maker movement" in Belgium.

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CONFERENCE REPORT

SpliTech 2019

By Toni Perković, Petar Šolić, Sandro Nižetić, and Ana Čulić, University of Split, Croatia; Luigi Patrono, University of Salento, Italy; and Joel J.P.C. Rodrigues, Federal University of Piauí, Brasil

SpliTech 2019 is a conference technically co-sponsored by the IEEE Communications Society. It was held on June 18-21, 2019 at the Hotel Elaphusa at Bol, Island of Brac, Croatia, and at the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture–FESB, Split, Croatia.

More than 500 participants from over 30 countries participated in this international event. Scientists and experts from academia, industry and public institutions joined to share their knowledge in the areas of smart environments, Internet of Things (IoT), energy, engineering modeling and eHealth. The conference attracted 244 scientific and professional papers. Only 49 percent of submitted papers were accepted for publication, therefore guaranteeing high quality contributions. All accepted contributions were published in the IEEE Xplore digital database in September 2019, with further indexation in other databases, such as SCOPUS and Web of Science (WoS). In the 2019 edition of the SpliTech conference, a total of 120 papers, 46 percent more than last year, were published.

The opening ceremony was held in Bol. The welcoming speech was given by Prof. Jiří Jaromír Klemeš, General Chair, Prof. Sven Gotovac, Dean of the Faculty of Electrical Engineering and Naval Architecture, and Vice-Rector Prof. Tomislav Kilić. Finally, Prof. Sandro Nižetić thanked the sponsors, especially Rimac Automobili, ICT County and Thermtest Instruments Europe, the gold sponsors of the 2019 conference. The greatest interest of the attendees was attracted by the keynote speeches: Luigi Atzori and David Wilkinson.

Prof. Luigi Atzori, University of Cagliari, Italy, gave a lecture on the topic "The Great Potential of Collaboration of IoT Devices". According to Prof. Atzori, an estimate shows that there will be over 13 million IoT devices deployed worldwide in 2019. In addition to interacting with humans as end users, the need for interaction among devices will increasingly evolve. This creates the need for protocols and standards that will allow easy and seamless communication among devices. The benefits of effective device collaboration are great, and the technical questions that need to be answered as well as the decisions to be made remain a challenge.

The other keynote lecture was delivered by a research team leader who developed the first commercial lithium-ion battery, a pioneer in the development of the first modern PEM hydrogen cell, Prof. David Wilkinson from the University of British Columbia, Canada. Through his presentation on "21st Century Electrochemical Technologies for Energy Storage", he introduced the participants to various aspects of advanced electrochemical energy storage technologies such as electrochemical capacitors, electrolysis, fuel cells, and batteries for the efficiency of stable energy system management. He also presented various versions of advanced technologies for electrochemical energy storage, including examples from his own research related to next-generation fuel cells, electrolysis and batteries.

All accepted papers will be invited for extension for possible further publication in Special Issues of some international journals in whose editorial teams are the organizers of the conference.

Within the conference, a "Meet the Editor" workshop was held for future Ph.D. students from the University of Split and less experienced authors. In the relaxed atmosphere Prof. Jiří Jaromír Klemeš, Editor-in-Chief of the *Journal of Cleaner Production*, introduced them to the experience of writing papers for highly cited journals. The workshop was designed to encourage Ph.D. students to write research papers with the intention of publishing in prestigious international journals.

Keynote speaker, Prof. Luigi Atzori.

Prof. Nižetić delivered a lecture on "Smart and Sustainable Photovoltaic Techniques" focusing on recent advances in smart and efficient cooling techniques for photovoltaic systems as part of the Croatian Science Foundation project "Smart Hybrid Techniques for Cooling Silicon Photovoltaic Panels".

IoT Day: Practical Workshops for Students

On the last day, the conference was held on FESB, where the all-day event IoT day was organized by assistant professors Toni Perković and Petar Šolić as part of the Croatian Science Foundation project "Internet of Things: Research and Applications". An interesting Workshop on Industrial Internet of Things was organized by Prof. Luigi Patrono, University of Salento, Italy, and Prof. Petar Šolić, FESB, Croatia, involving several important companies working in the IoT field in order to report their own vision and the state of art of technologies, solutions, experiences, and work-in-progress activities. Further practical workshops were fully booked in record time. Assistant professor Dubravko Čulibrk from the University of Novi Sad, Tandemlaunch Inc,, Startup Foundry, Canada, and NVIDIA Ambassador, held an NVIDIA Deep Learning Workshop for the 30 people during the IoT day, where all attendees could get acquainted with in-depth techniques learning and neural networks, using hands-on examples using NVIDIA cloud-based graphics cards.

Simultaneously with the NVIDIA workshop, the "IoT for Beginners with Croduino NOVA" workshop was held for the students, under the guidance of David Zovko, owner of e-radionica.com. Students learned how to connect devices to the Internet. In addition to the mentioned workshops, there were exhibition stands, as well as various interesting lectures. The most prominent lecture was held by Rimac Automobili representative, Tomislav Lugaric. In the lecture he presented the vision of the car of the future from the perspective of the Internet of Things, and what it takes to build for a new generation of drivers. He also outlined the challenges of developing a connected car and new possibilities for science fiction cars, Rimac C_Two.

SpliTech 2020 will be held in Split and Bol on July 1-4, 2020, and all the community is invited to submit new contributions on the conference topics.

CONFERENCE REPORT

113th IEEE Region 8 Committee Meeting, Valencia, Spain

The Opportunities of Building IEEE Standards for EMEA

By Oscar M Bonastre, Chair of Standards, Technical and Professional Activities, Chair of IEEE Spain Section 2020-2021

The 113th IEEE Region 8 Committee Meeting was held in Valencia on 12-13 October 2019. In conjunction with this meeting, the Spain Section celebrated the assembly of the IEEE Board of Directors and IEEE DAY on 12 October 2019. To this end, a workshop was prepared related with Standards, a fundamental point of interest for the Communications Society and other IEEE Societies. The workshop aimed to be an opportunity to discuss a broad variety of standards-related topics in the area of communications and others. It covered the role of standards in technical innovation in communications, the effect of intellectual property on technology standardization, and research on standardization methodologies. The workshop also focused on the role of policies and regulations on standardization.

From left to right: O. M. Bonastre, D. Law, C. Neppel, H. Brand, C. James and B. Heinen. (Photo courtesy of IEEE Spain Section.)

S. Welby, IEEE Executive Director, giving the keynote speech about IEEE Standards. (Photo courtesy of Shmuel Auster, workshop by the IEEE Spain Section.)

The opening ceremony was given by Jesús Fraile, IEEE Spain Section Chair, and Magdalena Salazar, IEEE Region 8 Director. Then, the keynote speech was given by Stephen Welby, Executive Director and Chief Operating Officer of IEEE, USA. About the panellists, David Law, Distinguished Technologist at Hewlett Packard Enterprise, IEEE representative to the European Commission ICT Standardization Platform, and IEEE R8 standards coordinator, UK, talked about developing standards within IEEE-SA: Process & Governance. Clara Neppel, Senior Director of the IEEE Global Office in Vienna, Austria, talked about IEEE standardization and certification initiatives around Artificial Intelligence. Hermann Brand, European Standards Affairs Director, IEEE Technology Centre, Austria, talked about IEEE standards shaping the future of road transportation. Christopher James, Professor of Biomedical Engineering, Director of Warwick Engineering in Biomedicine, University of Warwick, UK, talked about interoperability in the field of e-health. Brian Heinen, Founder, Local Producer Ltd and the Blockchain in Europe Group, talked about the need for Blockchain standards. The moderator was Oscar M. Bonastre, Chair of Standards, Technical and Professional Activities, IEEE Spain. The workshop was followed by more than 120 people representing industry, society, attendees of 113th IEEE Region 8

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CONFERENCE REPORT

The 2nd IEEE Middle-East and North-Africa Communications Conference (IEEE MENACOMM 2019) Bahrain, 19-21 November 2019

By Mohab Mangoud, IEEE MENACOMM'19 General Co-Chair and IEEE ComSoc Bahrain Chapter Chair

The 2nd IEEE Middle East and North Africa Communications Conference (IEEE MENACOMM'19) was held on 19-21 November 2019 at The Diplomat Radisson Blu Hotel in Manama, Kingdom of Bahrain. The conference was organized and sponsored by the IEEE Communications Society Bahrain Chapter (ComSoc Bahrain chapter), University of Bahrain (UoB) and Bahrain Society of Engineers (BSE). IEEE MENACOMM'19 is technically co-sponsored by the IEEE ComSoc chapters consortium (Bahrain, Jordan, Kuwait, Lebanon, Saudi Arabia, and Tunisia) in addition to three newly joined ComSoc chapters (Iraq, and Morocco and Oman).

Keynote speaker, Prof. Luigi Atzori.

The Technical Program Committee (TPC) of the Conference accepted 61 scientific papers, out of 164 papers submitted, yielding an acceptance rate of 37 percent. The conference papers were distributed and presented in 12 technical sessions. In addition to a "special video and live streaming interactive session", there was an added facility provided for those who could not attend to present their work. All papers will be indexed in IEEEXplore. The conference attracted more than 200 scientists and researchers from 30 different countries around the world to discuss the latest advanced technologies in communications in the following three tracks: (1) Emerging Communications Technologies and Future Trends; (2) Physical Layer and Fundamentals; (3) Network, MAC and Cross layer Design.

IEEE MENACOMM'19 invited six world class distinguished Keynote speakers from academia and industry. Their speeches highlighted the state-of-the art advancements in wireless communications as follows.

(1) "6G: Connecting the Unconnected", Prof. Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia.

(2) "Network Slicing for 5G", Prof. Adlen Ksentini, EMEA ComSoc Director, France.

(3) "5G – Ushering in the 4th Industrial Revolution", Prof. Andrew Nix, Faculty of Engineering, University of Bristol, United Kingdom.

(4) "Sensor-less Sensing: The Future of Ubiquitous Context-Awareness for the IoT", Prof. Moustafa Youssef, ACM Distinguished Scientist, Fellow IEEE, Founder and Director, The Wireless Research Center Alexandria University, Egypt.

(5) "UAV and Mobile Networks: Synergies, Challenges and Perspectives", Prof. Enrico Natalizio, LORIA Laboratory, Université de Lorraine, France.

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MENACOMM/*Continued from page 3*

(6) "Creating Future 5G Digital Opportunities in MENA region: Industry Perspective", Muhammad Atif Jamil, Smart City, 5G Solutions & Data Analytics, Middle East Region Director, Huawei Technologies, UAE.

In addition to regular sessions, MENACOMM'19 also featured a special panel session with a panel of experts sharing exciting and often controversial viewpoints on the topic of "Future of 5G and Next Generation Networks in EMEA Region, Opportunities and Challenges". The panelists were Prof. Adlen Ksentini, MENA IEEE ComSoc Director, France. Prof. Andrew Nix, University of Bristol, UK and Mr. Muhammad Atif Jamil, 5G Solutions ME Region Director, Huawei and the panel was Moderated by Prof. Mohab Mangoud. The following themes were discussed: Perspectives on 5G future applications and services, Opportunities that 5G will offer and Key challenges in rolling out 5G.

The MENACOMM'19 technical and organizing committees of dedicated and outstanding volunteers achieved their goal to make MENACOMM'19 a successful event and received excellent feedback from the attendees.

MENACOMM'19 offered a great opportunity for long term and sustainable collaborations between researchers in MENA region and other countries. Moreover, attendees expressed their valuable professional experience and the good memories remains from the social tour of the landmarks of the kingdom of Bahrain that was organized by the conference. At the end of the conference, the steering committee held a meeting to evaluate the conference and discussed the candidates and the preparation for the coming version, IEEE MENACOMM 2020, whishing the COMSOC chapter that will take over the organization to maintain the same quality and even better. For more details about the conference, visit: http://menacomm2019.org

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Committee Meeting and to the general meeting of IEEE Spain Section. The workshop featured extensive interaction between the speakers and questions from audience.

I want to express great gratitude to Stephen Welby for his high quality keynote speech and all panellists for their voluntary contribution to this workshop. The workshop slides are available online at https://ieeer8.org/category/committee/meetings/2019-october-valencia/

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A panel session debated shaping the smart city, with reference to four use cases: the Alkmaar smart city, re-building the old docklands in Ghent, historical investment patterns and the influence of physical architecture. The panel concluded that we must make our smart future together, that the environment is of prime importance and that new commercial models must give back to the city.

The final day began by examining business models, initially looking at getting investment for a smart waste management project in Copenhagen. City strategies for a 5G small cell network on light poles were examined next. In the "City of Things", the improvements in mobility around a city, the environment and public spaces, stimulation of the local economy and benefits to both citizens and visitors were examined.

Techno-economics for smart cities were considered, starting with the assessment of CAPEX and OPEX for media services in cloud enabled 5G networks, within a stadium environment. Serendipity for smart cities, industries and rural areas was examined next, particularly with respect to demographics, globalization, consensus complexity, sustainability and disruptive technologies. The cost model for a 5G light pole system was then described.

The conference conclusions were that technology is not the main driver for the smart city, but a necessary enabler; legislation, regulation and privacy also have a big impact. The economics are a major concern, specifically when up scaling from pilots is concerned, and from a social perspective citizens are key. The physical impact of the architecture of the city needs to be considered when planning a smart city.

AROUND EUROPE

The Austrian national association has held a number of networking events, as well as technology and heritage visits. The national association enjoys wide engagement with ICT sectors including lawyers and economists.

The Belgian FITCE group has a new dynamic president, with many new, interesting and innovative ideas. It continues to run its young ICT personality of the year competition and enjoys a good relationship with universities. Its symposium, held in April, looked at Belgium's competitive position in Broadband and 5G.

The Greek national association has held a number of workshops to examine the nature of degree courses and how young professionals enter the industry. A workshop is held in Thessaloniki every year, which is well supported by the academic community and typically attracts 180 young people from universities. The next workshop is likely to cover Artificial Intelligence and 5G.

The Italian association has focused on 5G mobile and broadband technologies, which will be the subject of their annual conference/symposium. In mid-October a special event was held to celebrate the contribution of Guglielmo Marconi and his relevance to the development of 5G. The Spanish and Italian national associations met in Rome to discuss the "state and perspective of ICT Engineering in Italy and Spain".

In Poland, the annual competition for the best master's thesis continues to be held. The UK national association holds a set of specialist industry presentations and workshops involving major industry participants. The organization is highly involved in supporting UK apprenticeship initiatives, which it celebrates at its prestigious annual dinner. On a local basis there are visits to industrial and historical sites