

GLOBAL Communications NEWSLETTER

May 2013

Distinguished Lecturer Tour of Tiffany Jing Li in Mexico, October 2012

By Cesar Vargas-Rosales, Monterrey Chapter, Isidro Lazaro, Morelia Chapter, Araceli Garcia, Guadalajara Chapter

From October 15th through 19th, 2012, Prof. Tiffany Jing Li of the Department of Electrical and Computer Engineering of Lehigh University visited the Communications Society Morelia, Guadalajara and Monterrey Chapters as part of the ComSoc Distinguished Lecturer Tour (DLT) program. The IEEE Communications Society provides the initiative of the DLT program, where recognized and world renowned experts give lectures at Chapters on all continents. The initiative allows students, professionals and researchers to attend open lectures given in their cities and interact with the Distinguished Lecturer to improve their knowledge and perspective on the topics presented. The Chapters started planning to host this event in March 2012.

The title of Prof. Li's lecture was "Wireless Localization: The Challenge Cases of Indoor, 3D and Network Localization," which was offered once at each of the places visited. The first talk was given at the city of Morelia, and was hosted by Isidro Lázaro Chair of the Morelia Chapter. Prof. Li was welcome by the Universidad Michoacana de San Nicolás de Hidalgo (UMSNH) student branch on October 15th with a tour of the principal monuments of the city of Morelia in the state of Michoacán. On the second day, October 16th, Prof. Li gave her lecture as the main speaker in the event PIFIE (Research Projects of the Electrical Engineering Faculty) organized by the UMSNH student branch, where approximately 80 people among students and professors attended the lecture. After her lecture Prof. Li had an informal meeting with professors of the Faculty where she talked about her research interests.

On October 17th Prof. Li had a meeting with the Instituto Tecnológico de Morelia (ITM) student branch where she gave her lecture in an event organized by ITM. Later that day, she traveled to the city of Guadalajara where she was received by Araceli García, Guadalajara ComSoc Chapter Chair and Javier Perez from the IEEE Guadalajara Section.

The second conference of Prof. Li was offered on October 18th at Instituto Tecnológico y de Estudios Superiores de Occidente (ITESO), where close to 60 students and researchers from ITESO and Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV) together with personnel from the Information Systems Office (OSI) attended the lecture. Other activities of Prof. Li included a meeting with Guillermo Duncan, head of OSI, to discuss wireless technology trends, an invitation to the opening of the Nokia-ITESO Laboratory, and a visit to the student branch at CINVESTAV hosted by Dr. Mario Siller.

The third place visited by Prof. Tiffany Jing Li was the city of



Prof. Tiffany Jing Li presenting the lecture at ITESO in the city of Guadalajara.



Prof. Li with Araceli Garcia at CINVESTAV Guadalajara.

Monterrey, where she gave her lecture at Tecnológico de Monterrey - Campus Monterrey. The DLT was hosted by Dr. Cesar Vargas-Rosales, Monterrey ComSoc Chapter Chair and Monterrey Section Chair. Support for the DLT was obtained from the RFID Research Chair at Tecnológico de Monterrey. The activities in Monterrey started with a conversation with some Ph.D. students about different research areas and topics that have specific problems that are important to improve capacity in wireless systems, among the topics discussed were channel estimation, coding, network coding and mobility. The activities continued with a tour through the Campus and some laboratories such as the Northeast Robotics Laboratory. After the tour, Prof. Li gave her lecture to an audience of over 110 people that attended the College of Engineering Research Seminar. Participants were mainly graduate students together with researchers interested in the area of wireless localization. Prof. Li organized the talk to present the indoor problem of localization and how she provides a solution by using reference points. Afterwards, the discussion was centered on the collaboration of the sensors in order to carry out localization. The fundamental issues such as noise and accuracy of the techniques were also discussed. After the lecture, Prof. Jing Li talked to Tecnológico de Monterrey IEEE Student Branch members and activities were discussed such as the IEEE STEP (Student Transition Elevation Partnership) and the IEEEExtreme 6.0 where teams of students were ready to start participation at midnight of October 19th. Research initiatives and actions were discussed for future projects and Ph.D. student thesis.

All talks and activities were successful and well received, with interest generated among the participants. We would like to thank Prof. Tiffany Jing Li for her lectures, her enthusiasm, her pro-activity and her interest in everything that we shared; we appreciate deeply the effort towards our own Chapter's benefit. It is also important to mention that the DLT was a success due to Carlos Andrés Lozano, Mehmet Ulema and the hosts and members of each of the IEEE ComSoc Chapters involved.

3rd FOKUS Future Seamless Communication Forum 2012, Berlin, Germany

By Thomas Magedanz, General Chair, TU Berlin/Fraunhofer FOKUS, IEEE Senior Member, Germany

The 3rd international FOKUS Future Seamless Communication (FUSECO) Forum themed “Convergence of Human-to-Human and Machine-to-Machine Communications within Emerging Open Smart City ICT Infrastructures – Using Open APIs, RCS, IMS, MTC, EPC, and LTE as Enablers for Emerging Future Internet Application Domains” has been held at Fraunhofer FOKUS in Berlin, Germany on November 15-16, 2012 with big engagement of IEEE Comsoc members acting as tutorial speakers and chairmen at the event. The event was attended by around 200 industry and academic experts from more than 30 nations, which represents an increase of the number of attendees of 25% compared to the last year’s event. The FUSECO Forum is a unique annual event, providing a networking and technical discussion platform for international network operators, standardization development organizations, and leading academic organizations dealing with the evolution of service control platforms for fixed and mobile next generation networks towards Smart Cities. In this context the FUSECO Forum took a holistic view on global Long-term Evolution (LTE) rollout and coincident deployment of Evolved Packet Core (EPC) platforms, the usage of IMS (IP Multimedia Subsystem) for the provision of Voice over LTE (VoLTE) and emerging Rich Communications Services (RCS), competing with successful over the top (OTT) voice and video services, as well as machine to machine (M2M) / machine type communication (MTC) services and platforms and their role within emerging smart city information and communication platforms and the Future Internet.

The first day started with three technical half-day tutorials. A half day tutorial “Understanding NGN Control and Service Platform Evolution – SDP/IMS/MTC/EPC Overview, Standards, and Services” given by Prof. Dr. Thomas Magedanz introduced the key control platform technologies to newcomers. The parallel tutorial “Getting started with OpenEPC to set-up your own LTE/FUSECO Testbed” given by Dragos Vingarzan and Marius Corici from Fraunhofer FOKUS has given practical advises how to use the FOKUS mobile and fixed NGN testbed toolkits. The third tutorial “Getting started with OpenMTC to set-up your own M2M Testbed” presented by Dr. Sebastian from Fraunhofer FOKUS has introduced the FOKUS M2M platform OpenMTC and gave a general overview of the emerging topic of M2M communication and the most important standards in the field.

The rest of the day was dedicated to two half day interactive workshops. Workshop 1 on “Migration/Deployment Issues for mobile and fixed NGN Services and Infrastructures” led by Dr. Niklas Blum from Fraunhofer FOKUS, Germany and Prof. Dr. Axel Küpper from TU Berlin/Deutsche Telekom Laboratories, Germany featured ten 15-minute presentations reflecting a market and best practice perspective on network- and service-related topics as policy/QoS control and network virtualization, SDP evolution, WebRTC, OTT services and developer programs within two sessions. A lively panel discussion with the topic “How much network does the service provider need?” was held at the end of this workshop. Participants discussed with the audience their perspective on

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Impressions from the 3. FOKUS FUSECO FORUM in Berlin, Germany, November 2012.

Highlights from the IEEE 2nd International Energy Conference & Exhibition 2012, Florence, Italy (ENERGYCON2012)

By Stefano Bregni, Politecnico di Milano, Italy; Marko Delimar, University of Zagreb, Croatia
Arturo Losi, University of Cassino and Lazio Meridionale, Italy; Alfredo Testa, Second University of Naples, Italy

ENERGYCON is the youngest flagship conference of the IEEE Region 8 (Europe, Middle East and Africa). It is held every two years in a different country of the Region. The first edition (IEEE ENERGYCON 2010) was held in Manama, Kingdom of Bahrain, on December 2010. The second edition (IEEE ENERGYCON 2012) was held in Florence, Italy, on September 2012.

IEEE ENERGYCON is dedicated to gathering world experts and researchers on various areas related to energy and power systems. It provides an international forum for the exchange of ideas and innovative technologies on sustainable generation, transmission and distribution, conversion and utilization of electrical energy. It aims at becoming the premier IEEE Region 8 conference for presenting applications of electronics, instrumentation, information and communication technology in the electrical energy industry.

IEEE ENERGYCON 2012 was held in Florence, Italy, at Palazzo dei Congressi on 9-12 September 2012. Florence is one of the most beautiful cities in Italy and in the world, where the Renaissance grew and anticipated Enlightenment and Modernity as a whole. Palazzo dei Congressi is located inside the 18th century Villa Vittoria. It is a modern venue successfully combining contemporary architecture with modern technology. Surrounded by a large, centuries-old park, Palazzo dei Congressi is only a few steps away from Piazza del Duomo and from the most important Florence monuments and palaces.

IEEE ENERGYCON 2012 was organized jointly by the IEEE Region 8, the IEEE Italy Section and the Italian Consorzio EnSiEL, with the technical co-sponsorship of the Italian engineering society AEIT ("Federazione Italiana di Elettrotecnica, Elettronica, Automazione, Informatica e Telecomunicazioni", formerly named "Associazione Elettrotecnica Italiana") and of six IEEE Societies: IEEE Industry Applications Society, IEEE Communications Society, IEEE Instrumentation and Measurement Society, IEEE Magnetics Society, IEEE Power and Energy Society and IEEE Power Electronics Society.

IEEE ENERGYCON 2012 was run under the motto "Towards User-Centric Smart Systems" and featured a Conference, Tutorials and an Exhibition.

The IEEE ENERGYCON 2012 Conference was organized in the following four Symposia, in which technical papers were presented in lecture-style:

- Advances in Energy Conversion
- Future Energy Grids and Systems.
- Sustainable Transportation Systems.
- ICT for Energy.

The Conference also featured an Industry Track, intended to improve cross-linkages between research institutions and industry in the areas covered by the Symposia. Papers submitted to this track highlighted the features of novel commercial products or services, as well as interesting lessons learnt from practical situations.

Three special Sessions were held: Measurements for electric energy grids, Active Demand (the ADDRESS project), and IEEE Standards-Related Activities and Trends in Smart Grid.

The IEEE ENERGYCON 2012 Tutorial Program featured three half-day tutorials, offered on the afternoon of 9th Septem-



Santa Maria del Fiore, the Duomo of Florence, seen by the delegates from the Conference Dinner venue.



The opening plenary session.

ber 2012:

- Ultra-Capacitors as Energy Storage for Power Conversion Applications: From Theory to Practice, by Petar J. Grbovi?;
- Integration of Secondary Substation Real-Time Information, by Laura Corbeira (lead instructor), Sami Repo, Davide Della Giustina and Josep M. Selga;
- Frequency Control and Inertia Response Schemes for the Future Power Networks, by Francisco M. Gonzalez-Longatt.

The IEEE ENERGYCON 2012 Executive Committee included the following persons:

General Co-Chairs

Alfredo Testa, Second University of Naples, Italy
(Executive Chair)

Marko Delimar, University of Zagreb, Croatia

Arturo Losi, University of Cassino and Lazio Meridionale, Italy

Vice-Chair for Technical Program

Stefano Bregni, Polytechnic of Milan, Italy

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Silverio Bolognani, University of Padova, Italy

Frede Blaabjerg, Aalborg Universitet, Denmark

Stefano Massucco, University of Genova, Italy

Costas Vournas, National Technical University of Athens, Greece

Ermanno Cardelli, University of Perugia, Italy

Joeri Van Mierlo, Vrije Universiteit Brussel, Belgium.

Lorenzo Vangelista, University of Padova, Italy

Pierre Siohan, IRISA Campus Universitaire de Beaulieu, France

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Organizing Committee Chair

Dario Petri, University of Trento, Italy

Treasurer

Stefano Tomasin, University of Padova, Italy

Publication Chair

Daniela Proto, University of Naples "Federico II", Italy

IEEE ENERGYCON 2012 received 371 regular papers and 18 submissions for the Industry Track; among the regular papers, 183 were published on IEEE Xplore. Papers were submitted from 39 different Countries, mainly from the Region 8 (Europe, Middle East and Africa), but not exclusively: almost 15% of papers were submitted from other Regions. IEEE ENERGYCON 2012 was attended by almost 280 persons.

IEEE ENERGYCON 2012 proved to be a very intensive

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network and platform requirements for several application areas from the preceding presentations. A definite outcome of the discussion was that the network still is and will be an important factor in a successful service offering, but that much more is needed to deliver services, attract developers and provide value to OTT players with a complete platform for a lively service ecosystem. Workshop 2 was titled "Towards a common M2M/MTC Control Platform – Prospects and Challenges" and was chaired jointly by Dr. Sebastian Wahle, Fraunhofer FOKUS and Dr. Cristoph Peylo, T-Labs, Deutsche Telekom AG. The first session "Horizontal M2M platforms: experiences from recent M2M platform and SDP deployments to support services across different M2M applications domains" featured a scene-setting talk from Machina Research as well as talks from the main operators active in the field. The session allowed for an extensive overview of the current M2M market, the predominant business models and technical challenges.

The second session "M2M Verticals & Standardization: Insights from selected M2M application fields and SDO perspective" featured concrete M2M deployment scenarios and views from different standardization bodies including ETSI TC M2M, oneM2M, ITU-T, and others. The concluding Panel discussed the question "Smart Cities and the Internet of Things: fragmented markets and silo mindset or huge potential for synergies across industries?" Key findings from the workshop and the panel sessions include: For business and service modeling in Smart Cities it is important to drive open platforms, developer communities, provide incentives for users to share data and participate, and combine OTT approaches since operators cannot address all verticals. Participation models are key to success. All operators have their own M2M platform covering mostly connectivity management, customized end-to-end solutions are realized upon demand. The demand side is still very heterogeneous combined with a highly fragmented market/value chain. This requires the operators to be flexible in terms of their M2M offerings. Cross-domain data gathering and cross-industry combination, together with data analytics

are seen as possible business for operators in M2M and Smart Cities.

The second day featured a full day conference with 19 presentations from various international network operators and service providers. After the opening by Prof. Dr. Magedanz, Prof. Dr. Henning Schulzrinne delivered a key note on "Protecting the Open Internet: Experience and Future Challenges", illustrating the upcoming challenges in QoS control and network neutrality. The first session chaired by Prof. Dr. Hans-Joachim Grallert from Fraunhofer Heinrich-Hertz-Institut, TU Berlin, Germany, addressed global mobile and fixed NGN deployment issues as challenges of integrating fixed and mobile IMS and NG IN platforms, managing Diameter as key protocol, promoting network and CRAN virtualization. The presentation were given by all four German mobile network operators and NGMN. The second session focused on operator services over converged broadband networks as VoLTE, RCS/Joyn and Smart City challenges. It was chaired by Prof. Guy Pujolle, from Université LIP6, Paris in France. After the lunch break Prof. Dr. Thomas Magedanz chaired a panel discussion on "Telco Service Transition Challenges and Opportunities: From Voice-based Services towards Data and Smart City Applications" with experts from Telefonica, BT, Orange, Eurescom, EIT ICT Labs and Columbia University. Prof. Dr. Klaus David from University of Kassel, Germany has led Session 3 addressing Network Evolution & Convergence for Implementing Smart City Communication Infrastructures. Here the European R&D perspective on converged networks and public private partnerships was presented as well as challenges for smart metering and M2M standardization. The final session was chaired by Prof. Mesut Günes from FU Berlin, Germany and focused on service platform evolution for Smart City services with case studies and plans around the World, including Indonesia, Japan and South Africa.

Alongside the workshop the newest testbed toolkits from Fraunhofer FOKUS, namely OpenEPC Release 4 (www.openepc.net), QoS-enabled WebRTC, as well as the new OpenMTC toolkit (www.openmtc.org) were practically demonstrated.

Details on the program and impressions from the event can be obtained from the FUSECO Forum website (www.fusecoforum.org/2012). Due to the huge success, the FOKUS FUSECO Forum series will be continued in November 2013 (www.fuseco-forum.org/2013).

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and fruitful event, offering participants the opportunity to exchange views and experience on a range of relevant issues related to the topic of the smartgrids and the centrality of the consumers in the new vision of electrical systems. Delegates and speakers gave relevant contribution to the success of the event, stimulating the discussion and giving positive feedback.

The hope of the organizers is that the edition in Florence, the second in the row, has helped in setting the IEEE ENERGYCON event chain as a reference in the electrical energy field. Now, all the efforts to keeping the chain improving have passed to the organizers of the next link, the third edition (IEEE ENERGYCON 2014) which will be held in Dubrovnik, Croatia, on May 2014.