

# IEICE Global Plaza

—Monthly community plaza in English for students, faculties and engineers—

## Greetings from New Overseas Sections

### IEICE Europe Section “From the East toward the West”



**Haris Gacanin, Dr., PHY-layer Expert,  
Alcatel-Lucent Bell, Antwerp, Belgium  
Representative of IEICE Europe Section**

It is my great pleasure to inform you that IEICE Europe Section is up on its feet. The mission of this section is to foster cross-continental networking among the IEICE members in Europe with those in the other areas, enable sharing of cutting-edge technological knowledge through organization of dedicated events and facilitate collaborations among academia and industry. Started as an initiative of a few enthusiasts the Section will enable the IEICE overseas members in Europe to have an easier way to get information and promote their initiatives to the whole IEICE organization.

The first Chairman of the IEICE Europe Section is myself, Haris Gacanin, while the other members of the initial committee include Petar Popovski, Vice-chair, and Dejan Vukobratovic, Secretary. I was born in Sarajevo, Bosnia and Herzegovina, where I received my E.E. Dipl.-Ing. degree from University of Sarajevo in 2000. I received my M.E.E. and Ph.D.E.E. from Tohoku University, Japan, in 2005 and 2008, respectively. After graduation, I have been working as a Postdoctoral Research Fellow of Japan Society for Promotion of Science (JSPS) and later as an Assistant Professor at Tohoku University. Currently, I work at Alcatel-Lucent Bell N.V. in Antwerp, Belgium. My research interest is in the fields of both cable and wireless communication technologies with more than 50 publications in journals, conference proceedings and several patent applications. Meanwhile, I received the 2010 KDDI Foundation Research Grant Award, the 2008 JSPS Postdoctoral Fellowships for Foreign Researchers, the 2005 Active Research Award in Radio Communications, 2005 Vehicular Technology Conference (VTC 2005-Fall) Student Paper Award from IEEE VTS Japan Chapter and the 2004 Institute of IEICE Society Young Researcher Award, respectively.

At present the main goal of IEICE Europe Section is to develop a good organizational structure that will provide adequate services to its members. One of the first initiatives that are currently underway is to establish a yearly IEICE Europe event that would help further promotion of IEICE activities. Thus, it will be possible to strengthen the networking among its members and with the rest of IEICE community and identify the dominant topics of interests for the IEICE European Section members.

With this in mind, preparations for the first and second meetings of IEICE Europe section in November 2011 and May 2012 have already started. Especially, the second meeting will be held jointly with “The 4<sup>th</sup> Sarajevo Technology Forum 2012” (STF2012, see it at <http://www.iwutf.com>). Moreover, a special issue of IEICE Transactions on Communication, devoted to the main topic of the forum “Future Internet Technologies” was planned and the preparations for the special issue have started as well, in conjunction with main topics of STF 2012. The forum and the special issue will serve as a convenient ‘research introduction’ of the Section towards the rest of the IEICE and will foster network and mutual

collaboration among different sections of IEICE.

Some of our past activities are summarized as follows. The first meeting of initiating members of IEICE European Section took place during “The 3<sup>rd</sup> Sarajevo Technology Forum 2011” in Sarajevo, Bosnia and Herzegovina. We supported organizing the Forum, where the IEICE Director for International Coordination and Publicity Prof. Fumiyuki Adachi participated as an invited speaker. Main relevant topics discussed at the event were :

- Organizational structure of IEICE European Section
- Efficient information distribution and exchange among IEICE European Section members (Web pages, mailing lists, social networks, etc.)
- Promotion of IEICE activities in Europe (IEICE conferences, IEICE transactions, etc.)
- Support and assistance mechanisms of IEICE available for the expected IEICE Europe Section

Further, some of our future plans are to establish different committees that will address their corresponding issues. In such way, we are sure that IEICE will be able to easier expand its academic activities and services to IEICE members in Europe. The strategic goal is to increase perspectives for collaboration and encourage joint initiatives between academia/industry in Europe and Japan.

## Hot Topics

### Call for Papers VTC2012-Spring in Yokohama IEICE Communications Society IEICE Engineering Sciences Society

In May 2012, “The IEEE 75<sup>th</sup> Vehicular Technology Conference” (VTC2012-Spring in Yokohama) will be held in Japan. IEICE Communications Society, IEICE Engineering Sciences Society, and IEICE itself will technically cosponsor the conference. As VTC is the premier semi-annual flagship conference of the IEEE Vehicular Technology Society (VTS) that gathers researchers, industry professionals and academics dedicated to innovation across the broad field of wireless technologies, it is a very good opportunity to present your research results and exchange technical information with other researchers from all over the world. You are invited to submit papers in any areas of wireless communications, networks and applications. It is summarized as :

#### Date and Venue

At Pacifico Yokohama, Yokohama, Japan on May 6~9, 2012.

#### Potential Topics

(solicited in, but not limited to the following categories)

- Ad hoc, Mesh and Sensor Networks
- Antenna and Propagation
- Cognitive Radio and Spectrum Sensing
- Cooperative Communications, Distributed MIMOs and Relaying
- Green Networks
- Multiple Antenna Systems and Space-Time-Frequency Processing
- Positioning, Mobile Applications and Services
- Transmission Technologies
- Transportation
- Vehicular Electronics and Telematics
- Wireless Access
- Wireless Networks

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Prospective authors are encouraged to submit 5-page full paper (or 2-page extended abstract including results) through the conference Web site by 30 September 2011. For more information, visit <http://www.vtc2012spring.org/>.

**Useful Remarks**

**NOLTA and Smart Energy Management**



**Yoshihiko Susuki, PhD, Department of Electrical Engineering, Kyoto University, Guest Secretary of the Special Section in NOLTA, IEICE Engineering Sciences Society**

Energy distribution has been traditionally managed and regulated by regional power and gas suppliers. Due to highly nonlinear dynamics with multiple-scale and multi-physics, this has been a very challenging task, especially on the demand side or energy consumers. Currently, there are many challenges in academia and industry that try to overcome the difficulty on energy distribution by an integration of ideas from information, communications, software, and control engineering. Examples of these challenges are the so-called Smart Grid, HEMS/BEMS (Home Energy Management System/Building Energy Management System), and Smart Community for total energy management. Understanding nonlinear dynamics of the complex engineered system is the key enabler to accomplishing the energy distribution in a stable, resilient, and energy-efficient way.

The Special Section of the IEICE's new journal, "Nonlinear Theory and Its Applications (NOLTA), IEICE," addressed recent progress on science and technology for smart energy management, in particular, electrical energy management. Among the topics to be covered in the Special Section are

- Development of methodologies and tools for smart electrical energy management;
- Application of nonlinear theory to analysis, control, and design of current and future energy systems.

In this Special Section, fortunately, we have two invited papers and four regular papers. The invited papers are given by Prof. Ian Dobson at the University of Wisconsin, Madison, and by Prof. Hsiao-Dong Chiang at Cornell University and his student, Mr. Bin Wang. Prof. Dobson gives a recent result on voltage collapse blackouts of electric power transmission systems and bifurcation theory. He addresses a technique of estimating the distance to voltage collapse and explains the effect of power system models on it. Prof. Chiang and Mr. Wang give a recent development of optimization techniques based on nonlinear systems theory. They develop the technique based on his theory of stability regions in nonlinear dynamical systems and describe their new technique in mixed integer nonlinear optimization in details, from basic theory to numerical implementation. The four regular papers are the following. Prof. Aranya Chakraborty (North Carolina State University) and Prof. Clyde F. Martin (Texas Tech University) develop a new methodology for sensor placement to identify a model of electric transmission networks (Fig. 1). Prof. Takashi Hisakado (Kyoto University) and his student, Mr. Shota Ukai, give a phenomenology of nonlinear oscillations

in a symmetric three-phase circuit. Ms. Yuko Omagari and Prof. Tsuyoshi Funaki (Osaka University) give an experimental study on power system stability based on a mechanical model of a rudimentary power transmission system. Mr. Yu Takatsuji (Kyoto University) and his coworkers give a design of hybrid controller for safe operation of a microgrid (Fig. 2). All of the papers above can be downloaded without charge at <http://www.nolta.ieice.org/>.

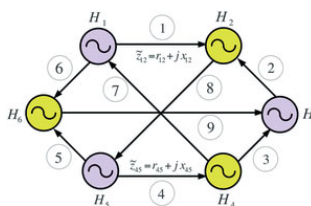


Fig. 1 A model of electric transmission networks for parameter estimation (from A. Chakraborty & C.F. Martin, NOLTA, IEICE, vol. 2, no. 3, July 2011).

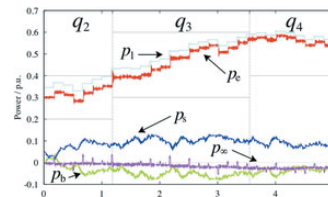


Fig. 2 Safe transient response of an electric power system with the microgrid architecture (from Y. Takatsuji et al., NOLTA, IEICE, vol. 2, no. 3, July 2011).

Research and development in smart energy management are, needless to say, not limited in Japan, as the Special Section includes contributions from the United States. They are very active in North America, Europe, and Asia. Many countries in other areas are focusing on it for getting stable and reliable energy. Also, the study of smart energy management is interdisciplinary, from power and energy engineering, engineering sciences (applied mathematics and computer science, etc.), communications, electronics, information and systems, human communications (that is, all of the societies in the IEICE), environmental science, to social sciences. Students and researchers are encouraged to contribute to the interdisciplinary energy technology.

Finally, I would like to express my sincere thanks to all of the authors for their contributions. I also thank to all of the reviewers, guest editorial members, and editorial staffs of NOLTA for their supports on publishing this Special Section.

**Upcoming International Conferences**

*NOLTA2011*- IEICE Engineering Sciences Soc., in Kobe, Japan, on Sept. 4-7, 2011, <http://nolta2011.org/>.

*2011 IEICE Society Conference*- at Hokkaido University on Sept. 13-16, [http://www.toyoag.co.jp/ieice/E\\_S\\_top/e\\_s\\_top.html](http://www.toyoag.co.jp/ieice/E_S_top/e_s_top.html).

*APNOMS2011*- Tech. Comm. on Information and Commun. Management, IEICE Communications Soc., in Taipei, on Sept. 21-23, 2011, <http://www.apnoms.org/2011>.

*IEICE Special Symposium at CEATEC2011*- at Makuhari Messe, in Chiba, 2F International Convention Hall and 3F Meeting rooms, on Oct. 6-7, 2011, free of charge, <http://www.ieice.org>.

**Message from TFIPP Secretariat**

This issue is delivered also by a free mail magazine "IEICE Global Plaza on Line" with updated news of interest for you. Please contact Prof. Takahashi, TFIPP (Task Force for International Policy and Planning) at [global@ieice.org](mailto:global@ieice.org), if you need. Back numbers are available in archives at [http://www.ieice.org/eng/global\\_plaza/index.html/](http://www.ieice.org/eng/global_plaza/index.html/).

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