GLOBAL
Communications
NEWSLETTER

January 2014

Fifth International Workshop on Reliable Networks Design and Modeling (RNDM 2013)

By Jacek Rak, Poland; Hussein Mouftah, Canada; and Wen-De Zhong, Singapore

The 5th anniversary edition of RNDM 2013 International Workshop on Reliable Networks Design and Modeling was organized on September 10-12, 2013 in Almaty, Kazakhstan by Prof. Jacek Rak from Gdansk University of Technology, Poland in co-operation with Prof. Hussein Mouftah from Ottawa University, Canada, and Prof. WenDe Zhong from Nanyang Technological University, Singapore.

The event was locally co-sponsored by JSC Kazakhtelecom, as well as technically co-sponsored by IEEE Communications Society Russia Northwest Chapter and IFIP TC6 WG 6.10.

Similar to previous editions organized in St. Petersburg (2009, 2012), Moscow (2010), Russia, and Budapest (2011), Hungary, accordingly, RNDM 2013 was a forum for world-class researchers from academia and industry to present high-quality results in the area of reliable networks design.

Papers submitted to RNDM 2013 were extensively reviewed. Each paper received at least four (up to six) reviews (on average: 4.94 completed reviews per each paper). Finally, 15 papers (i.e., nine full papers and six short papers, respectively) were selected for publication, and organized into six technical sessions, namely:

- Network Reliability Assessment.
- Survivability of WDM-based Networks.
- Reliability of Virtual and Overlay Networks.
- Theory of Network Reliability.
- Reliable Networks Design: from Theory to Practice - Part I.
- Reliable Networks Design: from Theory to Practice - Part II.

Program of RNDM 2013 was enriched by the keynote talk of Prof. Luigi Fratta, IEEE Life Fellow (Politecnico di Milano, Italy) entitled: "Do energy efficiency strategies necessarily conflict with reliability in wireless and wired networks?", and five invited papers, by: Cicek Cavdar (KTH Royal Institute of Technology, Sweden), George Ellinas (University of Cyprus), Dimitri Papadimitriou (Alcatel-Lucent Bell, Belgium), Marcus Schöller (NEC, Germany), and Hongfang Yu (University of Electronic Science and Technology of China).

RNDM 2013 trip to Charyn Canyon.

Another important event in the RNDM 2013 program was the Panel Discussion entitled "How practical are recent network reliability concepts?", including presentations of five panelists from both academia and industry, namely: George Ellinas, CY; Dimitri Papadimitriou, BE; Dimitri Staessens, BE; James Sterbenz, UK, US; and Krzysztof Walkowiak, PL.

During the Closing Session, Best Paper Award was given to the paper "An optimization model for communication networks with partial multiple link failures" by Michal Pioro (PL, SE), Dritan Nace (FR), and Yoann Fouquet (FR).

Extended versions of selected highest-quality RNDM 2013

(Continued on Newsletter page 4)

Left: a group photo of RNDM 2013 participants. Center: Prof. Luigi Fratta delivering his keynote talk. Right: Best Paper Award ceremony (left: Yoann Fouquet receiving the award and right: Jacek Rak, RNDM 2013 General Chair).

21st SoftCOM Conference: Bringing Together Academy and Industry

By Dinko Begusic, Nikola Rozic, Joel Rodrigues, and Petar Solic

The 21st International Conference on Software, Telecommunications and Computer Networks - SoftCOM 2013 was held in attractive ambience of the Zora hotel, Primosten, Croatia, September 18 to 20. The Conference was organized by the University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture (FESB) and Crotian Communications and Information Society (CCIS) under the auspices of the Ministry of Science, Education and Sports. The Conference has been technically co-sponsored by the IEEE Communications Society (ComSoc).

Researchers and experts from industry, research institutes and universities from 30 countries all around the world have submitted in total 140 papers for presentation at SoftCOM 2013. Submitted papers have been reviewed by more than 200 scientists from universities, institutes and ICT companies all over the world. 47% of submitted papers have been accepted for presentation within the technical program based on their contribution, relevance, conceptual clearness and overall quality.

At the opening ceremony the participants have been welcomed on behalf of the organizers by Prof. Srdjan Podrug, the Dean of the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture in Split, Prof. Tomislav Kilic, the Vice Rector of the University of Split, Prof. Joel Rodrigues, President of the IEEE ComSoc TC on Communications Software, M.Sc. Gordana Kovacevic, president of Ericsson Nikola Tesla company, dr.sc. Sinisa Krajnovic, Vice President and Head of Development Unit Core & IMS, Ericsson AB, Sweden, a SoftCOM 2013 General Chair. A plenary talk titled "Telecom and Cloud – efficient operations and revenue growth" has been presented by Ian Söderström, Head of the new Product Line for Cloud Systems, Ericsson AB, Sweden.

The technical conference program featured twelve conference sessions, including five special sessions. A Symposium on Environmental Electromagnetic Compatibility organized by researchers from the University of Split. The special sessions have been focused on hot topics including: RFID Technologies and the Internet of Things, Ad Hoc and Sensor Networks, Green Networking, Smart Environment technologies, and QoS in Wired and Wireless Networks. These sessions have been organized by researchers with University of Salento, Italy, University of Beira Interior, Portugal, Politecnico di Milano, Italy, University of Split, Croatia, and University of Haute Alsace, France.

Besides the scientific program a professional workshop dedicated to the wide spectra of topics in ICT has been organized. In addition four half day tutorials have been held by worldwide recognized experts.

The keynote speech titled "Telekom and Cloud – Efficient Operations and Revenue Growth " was presented by Jan Söderström, Head of the New product line for Cloud systems, Ericsson AB.

SoftCOM 2013 General Chair Sinisa Krajnovic, Vice President and Head of Development Unit Core & IMS, Ericsson welcomed the participants and presented Ericsson's view of the Network Society.

In conjunction with the SoftCOM 2013 conference, a Business Forum has been organized featuring three workshops and invited talks with participation of managers, executives, experts, government and institution representatives. Industry panel on Agile and Lean Software Development and Workshop on Software Engineering in Practice gathered researchers from academy and professionals from industry to discuss challenges and new developments in the area of communications software production. Industry panel was moderated by Ari Joupilla, Head of PDU Mobile Core, Ericsson AB, Sweden. Workshop on Software Engineering in Practice was organized by dr.sc. Darko Huljeni, Ericsson Nikola Tesla, Croatia. Workshop on Innovation in ICT was co-organized by the Technology Transfer Office of the University of Split. Representatives of academic institutions and professionals from ICT companies discussed collaboration between academy and industry in development of innovation ecosystem with special emphasys on the area of ICT.

Invited talks have been held by recognizeed representatives of academic and administrative instiurtions. Drazen Lucic, President of Council, HAKOM presented an invited talk titled "Encouraging Investments In The Next Generation Networks – The Role of Croatian Post and Electronic Communications Agency." Darko Paric, Deputy minister of administration for e-Croatia, Croatia held the presentation "IT in Public Government and Directions forFurther Development." Abdelhamid Mellouk, PhD Head of Towards Adaptive Network Controls (TINC) Team, LiSSi Laboratory, University of Paris-Est C. Vdm (UPEC), France held an invited talk "Quality of Experience vs. Quality of Service: Application for a CDN Architecture." Joel Rodrigues with University of Beira Interior, Portugal, organized the special session on Ad hoc and Sensor Networks and held an invited talk "New Frontier for Mobile Health."

The presentations of the student projects pursued in the frame of the Ericsson Nikola Tesla Summer Camp 2013 at the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture in Split, have been held within a special session which was chaired by Sasa Desic (Ericsson Nikola Tesla).

The welcome reception by the Mayor of the town of Split

(Continued on Newsletter page 4)

Highlights from the 2013 Fall Workshop on Information Theory and Communications, Tainan, Taiwan

By Chiao-En Chen, University of Chung Cheng University, Mao-Chin Chiu, Chair of ComSoc Tainan Chapter, Hsuan-Jung Su, Chair of ITSoc Taipei Chapter, and Guu-Chang Yang, Chair of ComSoc Taipei Chapter, Taiwan

The 2013 Fall Workshop on Information Theory and Communications took place in Chiayi, Taiwan during 15-16 August 2013. This two-day workshop was held by the National Chung Cheng University (CCU), Taiwan, and was supported by the IEEE Taipei and Tainan Chapter of Communications Society, and the Taipei Chapter of the IEEE Information Theory Society. The workshop has attracted more than 250 attendees from both academia and industry with 150 papers presented in the poster sessions and 7 invited speeches given by distinguished researchers from Hong Kong and Taiwan.

Three invited speeches were scheduled on the first day of the workshop. In the first talk titled "Facets of Physical-Network Coding (PNC)," Prof. Soung-Chiang Liew, IEEE Fellow, Division Head at the Department of Information Engineering of the Chinese University of Hong Kong (CUHK) first gave an overview on the concepts of PNC and then disclosed some of the recent results in his theoretical and experimental investigations. The second talk was given by Prof. Ping-Cheng Yeh from the Department of Electrical Engineering of National Taiwan University (NTU). In his talk titled "Diffusion-Based Molecular Communications," Prof. Yeh introduced the idea of molecular communications and presented several new channel coding designs for this type of communications. In the third speech titled "On Imperfect Channel Knowledge in Fading Channels," Dr. A. Taufiq Asyhari from the Department of Electrical and Computer Engineering of National Chiao Tung University (NCTU), Taiwan, presented his latest research progress on the capacity of non-coherent fading channels.

On the second day of the workshop, the first speech titled "Design of Optimal and Near-Optimal Variable-Length Error-Correcting Codes" was given by Prof. Po-Ning Chen from the Department of Electrical and Computer Engineering of NCTU. In this talk, Prof. Chen presented his research on the algorithmic construction of optimal and near-optimal variable length error-correcting prefix codes.

Researchers enjoyed the wonderful speeches given in the 2013 Fall Workshop on Information Theory and Communications.

In the second talk "Rooting out the Rumor Culprit in Online Social Networks," Prof. Chee Wei Tan from City University of Hong Kong, presented his research on the detectability and detection of a rumor source in different topology of social networks. The third talk was given by Prof. Kuei-Chiang Lai from the Department of Electrical Engineering of National Cheng Kung University (NCKU), Taiwan. In his talk titled "Equalization Techniques for Single-Carrier Block Transmission (SCBT) Systems," Prof. Lai presented a new equalization scheme enabling high-performance low-complexity detection in a SCBT system. The last speech of the workshop was given by Prof. Tsung-Hui Chang from the Department of Electronic and Computer Engineering of National Taiwan University of Science and Technology (NTUST). In the talk titled "Decentralized Demand Response Control for Future Smart Grid Networks," Prof. Chang showed how the modern optimization techniques can be utilized to address both centralized and decentralized coordinated demand side management (CoDSM) design problems in a smart grid network.

Group photo of faculty attendees after the Workshop (Front row, left to right: W.-H. Sheen, Y. Li, J.-T. Tsai, Y.-L. Chen, M.-C. Lin, C.-C. Chao, S.-C. Liew, C.-L. Wang, C. W. Tan, P.-C. Yeh, T.-H. Chang, C.-H. Lee, C.-L. Chang, M.-X. Chang, and C. Huang; Second row, left to right: M.-C. Chiu, S.-P. Tseng, C.-P. Li, C.-Y. Chi, G.-C. Yang, H.-J. Su, W.-C. Liu, C.-E. Chen, Y.-W. Hong, B. Su, and K.-C. Lai.)

The Workshop on Information Theory and Communications is a long-established bi-annual event in Taiwan, which provides great opportunities for domestic researchers working in the field of communications and information theory to exchange research ideas, make new connections, and also enjoy the scenery of the host city. The 2014 Spring Workshop on Information Theory and Communications will be hosted in Kaohsiung, Taiwan by the National Kaohsiung Normal University (NKNU). We sincerely look forward to your participation.

M2M Competence Center in Moscow

By Alexei Vasiliev, ZNIIS, Moscow; Manfred Sneps-Sneppe, ZNIIS, Moscow; Dmitry Namiot, Lomonosov Moscow State University, Russia

The leading research institute in Russia in the field of communications and information technology, "Central Telecommunication Research Institute" (ZNIIS) opens competence center for machine-to-machine (M2M) and Internet-of-Things (IoT).

ZNIIS today is the integrator of the latest technological advances in the world of telecommunications in the Russian network connection. The research area of ??the Institute covers the legal, economic and technical consulting in the field of telecommunications and information technology. The Institute is actively involved in a number of international organizations too. For example, it represents the country in the ITU and ETSI.

Competence Center is to be a key link in Russia between academic research and industrial development projects. Center will provide the regular seminar events, as well as a technical framework for modeling and demonstration of M2M systems. The objectives of the center will be to monitor the international effort for standardization in the field and make appropriate recommendations to Russian hardware vendors and system integrators.

We assume that the technical base of the center will allow manufacturers (including the new innovative enterprises, start-ups) to test their design for compatibility with existing products. This, in turn, will help reduce the cost of new developments and accelerate their time to come to market. Center can also serve as a catalyst for the development of new businesses by offering consumers demand problems to solve, as well as helping with their subsequent prototyping and implementation.

One of the priorities of the center will be to test the software (first of all, the proposed standards) in M2M area. As one of the main objectives of its work, the center is going to target software developers and researchers in the field of M2M. Competence Center will provide them with opportunities to showcase products and to model their own solutions. Naturally, the center involves direct participation in the activities of standards bodies. Partners will be able to use Center's resources to demonstrate their own solutions and test them.

As an example of such a partnership we can mention a FRUCT association. It is an independent Open Innovation Association developing ICT R&D ecosystem of Russia and Finland. FRUCT Association is helping regional universities to build world-class IT and ICT competences demanded by industry and to create innovative startups. Association is known for its educational and R&D activities focused on improvement of the innovation ecosystem of Russia and Finland, competitiveness of the graduate students and development of cooperation between universities and industrial research groups. FRUCT is the regional sister society of IEEE Communications Society in Russia, Finland, Ukraine and Denmark. FRUCT's researchers will be able to use M2M Center for their mobile diagnostics device testing. It is a project focused on development of advanced device for mobile telemonitoring of 9 key life parameters and methods of early diagnostics of health problems on top of them. The target solution will provide interaction with wide spectrum of biosensors using IEEE 11073 standard and a number of proprietary protocols. Due to the large number of various measuring and diagnosing devices, issues of standardization and interoperability are extremely important for M-Health development. M2M Center plans to participate in technical conferences held by FRUCT (sponsored by ComSoc) and can bring support from industry and government.

M2M Competence Center is going to be actively involved in the research process of the undergraduates and PhD students. It should help in formation of research communities in IT and ICT areas and promote prestige of research career among young people. Academic related activities of this Center also offer workshops and conferences holding on the subject of M2M and the Internet of Things.

GLOBAL Communications NEWSLETTER

www.comsoc.org/gcn

STEFANO BREGNI
Editor

Politecnico di Milano — Dept. of Electronics and Information
Piazza Leonardo da Vinci 32, 20133 MILANO MI, Italy
Tel: +39-02-2399.3503 — **Fax:** +39-02-2399.3413
Email: bregni@elet.polimi.it, s.bregni@ieee.org

IEEE COMMUNICATIONS SOCIETY

STEFANO BREGNI, VICE-PRESIDENT MEMBER RELATIONS
PEDRO AGUILERA, DIRECTOR OF LA REGION
MERRILY HARTMANN, DIRECTOR OF NA REGION
HANNA BOGUCKA, DIRECTOR OF EAME REGION
WANJIUN LIAO, DIRECTOR OF AP REGION
CURTIS SILLER, DIRECTOR OF SISTER AND RELATED SOCIETIES

REGIONAL CORRESPONDENTS WHO CONTRIBUTED TO THIS ISSUE

JOEL RODRIGUES, PORTUGAL (JOELJR@IEEE.ORG)
EWELL TAN, SINGAPORE (EWELL.TAN@IEEE.ORG)
ALEXEY VINEL, FINLAND (ALEXEY.VINEL@GMAIL.COM)

A publication of the
IEEE Communications Society

21ST SOFTCOM/*continued from page 2*

was organized in the attractive ambience of the 1700 year old Diocletian Palace Basement in Split. The participants also had an opportunity to enjoy the conference trip by boat to the island of Zlarin, which is famous for the beutiful red corals.

More information about the SoftCOM 2013 conference may be found at the address http://www.fesb.hr/softcom

RNDM 2013/*continued from page 1*

papers are now under preparation for a special issue of Optical Switching and Networking Journal (Elsevier) dedicated to RNDM 2013 papers exclusively.

Based on feedback from participants, we can say that RNDM 2013 was a very successful event. Similar to all previous editions of the workshop, also this year all accepted papers were presented (0% of no-shows), and all technical sessions were highly attended. Presentations were found interesting and were extensively discussed not only during the technical sessions, but also at many social events including the Social Day on September 11, 2013, Welcome Reception, Regional Gala Dinner, Farewell Yurt Dinner (in a traditional Kazakh tent), or during the oneday trip to Charyn Canyon (about 200 km east from Almaty, close to the Chinese border).

The next edition of RNDM will take place in St. Petersburg, Russia, on September 3-5, 2014. More information may be found at http://www.rndm.pl.