

ANNUAL REPORT 2015 NCAS TC, IEEE CAS SOCIETY
(Time Period: May 2014 --- May 2015)

1. Conferences or workshops where the NCAS TC or members of the TC were actively involved in 2014-2015 include the following: Short Courses, Plenary Sessions, Keynote Speakers, Invited Lectures:

- (1) **Abdelali El Aroudi** (Conference chairing and organization), "The Annual Seminar on Automation," Industrial Electronics and Instrumentation (SAAEI), 2014.
- (2) **Abdelali El Aroudi**, "Nonlinear Dynamics of Interconnected Power Converters," NOLTA 2014.
- (3) **Abdelali El Aroudi**, "Nonlinear dynamics, Bifurcations and Analysis of Chaos in Electrical and Electromechanical systems," Nolinear Structural Dynamics and Diagnostics, in Agadir 2014.
- (4) **Abdelali El Aroudi**, Invited lecture in Petroleum Institute, Abu Dhabi, UAE, "Power Mangement in Photovoltaic Systems by Sliding Mode Control of Switching Converters.
- (5) **Abdelali El Aroudi**, "Power Processing in Photovoltaic Applications by Means of Cascaded Voltage Step-up Canonical Elements," Invited lecture in King Saud University, Ryadh, KSA.
- (6) **Alessandro**, chair of AANS2015- IEEE International Meeting on Analysis and Applications of Nonsmooth Systems, 10-12 September 2014, Como, Italy.
- (7) **Alessandro**, "Forward and backward nondeterminacy of nonsmooth systems Invited lecture in King Saud University, Ryadh, KSA, 8th Workshop SDS2014 STRUCTURAL DYNAMICAL SYSTEMS: Computational Aspects, 10-13 June 2014, Monopoli, Italy.
- (8) **Chai Wah Wu**, "Global Technology Outlook 2014: Transforming industries with Systems of Insight," Systems Seminar/Ezra's Round Table, Cornell University, November 14, 2014.
- (9) **Chai Wah Wu**, "Pendant vertices in complex networks: separable graphs and control localization of weighted trees," 2014 IEEE International Workshop on Complex Systems and Networks, Shanghai, China, October 25-26, 2014.
- (10) **Dimitri**, ICECS 2014, NOLTA 2014, ISCAS 2015
- (11) **Elena**, Co-organiser/co-presenter (with Dimitri Galayko, TCNCAS member) of the tutorial , "Design of Electrostatic Energy Harvesters," In Proc. the IEEE International Conference on Electronics, Circuits and Systems (ICECS), Marseille, France, 2014 .
- (12) **Elena**, Co-organiser and co-chair (with Dimitri Galayko, TCNCAS member) of the special session "Complexity in the Design of Systems-on-a-Chip" at the IEEE International Symposium on Circuits and Systems 2015 in Lisbon, Portugal (Supported and endorsed by the NCAS Technical Committee).
- (13) **Elena**, Member of the organising committee of IEEE Int. Conf. on Electronics, Circuits and Systems 2014, December 2014, Marseille, France (Conference organisation).
- (14) **Elena**, Track co-chair (with Dimitri Galayko, TCNCAS member) for nonlinear circuits and systems, neural systems at IEEE Int. Conf. on Electronics, Circuits and Systems 2014, December 2014, Marseille, France. (endorsed by TCNCAS).
- (15) **Elena**, Track chair for Nonlinear Circuits and Systems at the IEEE International Symposium on Circuits and Systems (ISCAS) 2015 in Lisbon, Portugal (Endorsed by TCNCAS).

- (16) **Elena**, Member of the steering committee of the IEEE Conference on PhD Research in Microelectronics and Electronics (IEEE PRIME 2015).
- (17) **Elena**, Member of the programme committee of European Symposium on Reliability of Electron Devices, Failure Physics and Analysis 2015 in Toulouse, France; Design, Test, Integration and Packaging of MEMS and MOEMS (DTIP) 2015 in Montpellier, France; and IEEE Latin American Symposium on Circuits and Systems (LASCAS) 2015 in Montevideo, Uruguay (Conference organisation).
- (18) **Elena**, Lecture on Mathematical modeling of nonlinear phenomena in micro-scale vibration energy harvesting systems (as Invited Professor at UPMC Sorbonne Universities, June 2014).
- (19) **Elena**, Lecture on Active control of parasitic charges trapped in dielectric layers of capacitive MEMS switches: study, modeling and system design (as Invited Professor at UPMC Sorbonne Universities, June 2014).
- (20) **Guanrong Chen**, Co-Organizer, International Workshop on Complex Systems and Networks, Shanghai, China, 24-26 Oct. 2014. (Technically sponsored by the IEEE CASS NCAS)
- (21) **Guanrong Chen**, Co-Chair and Co-Organizer, 7th International Workshop on Chaos-Fractals Theories and Applications, Qingdao, China, 12-14 Sept 2014. (Technically sponsored by the IEEE CASS NCAS)
- (22) **Guanrong Chen**, Co-Organizer and Co-Chair, Special Session on Analysis, Synchronization and Control of Complex Networks: Theory and Applications, IEEE Int. Symp. Circ. Syst., Melbourne, Australia, 1-4 June 2014.
- (23) **Geza Kolumban**, "SDE: A Revolutionary New Approach for Design and Implementation of Future Communications Systems," Keynote talk at IEEE Intl. Symp. on Computer, Consumer and Control (IS3C), June 10, 2014, Taichung, Taiwan.
- (24) **Geza Kolumban**, "Software Defined Electronics: A New Research Field for Circuits and Systems Society," Keynote talk at 12th IEEE NEWCAS Conference, June 24, 2014, Trois-Rivers, Canada.
- (25) **Geza Kolumban**, "Software Defined Electronics (SDE): A New Approach for Design and Implementation of Future Communications Systems," Short course at Universidade do Estado do Rio de Janeiro (UERJ), August 15, 2014, Rio de Janeiro, Brazil.
- (26) **Geza Kolumban**, "Software Defined Electronics: A Revolutionary Change in Design Paradigm of RF Radio and Measurement Systems," Tutorial at International Telecommunications Symposium (ITS), August 17, 2014, Sao Paulo, Brazil.
- (27) **Geza Kolumban**, "Software Defined Electronics (SDE): A Revolutionary Change in Design Paradigm of Radio and RF Measurement Systems," Short course at Inha University, September 23, 2014, Incheon, Korea.
- (28) **Geza Kolumban**, "Software Defined Electronics (SDE): A Revolutionary Change in Design Paradigm of RF Radio and Measurement Systems," Plenary talk at 14th Intl. Symp. on Communications and Information Technologies, September 24, 2014, Incheon, Korea.
- (29) **Geza Kolumban**, "Software Defined Electronics: A Revolutionary New Paradigm for the Research and Design of Future Communications and Measurement Systems," Seminar at City University of Hong Kong and The Hong Kong Polytechnic University, October 10, 2014, Hong Kong.

- (30) **Geza Kolumban**, "Software-Defined Electronics: A New Research Field for CAS Society," Half-day tutorial at NORCHIP 2014, October 27, 2014, Tampere, Finland.
- (31) **Geza Kolumban**, "New Approach for Design and Implementation of Future Communications Systems," Keynote speech at Intl. Symp. on System-on-Chip (SoC), October 28, 2014, Tampere, Finland.
- (32) **Geza Kolumban**, "Software Defined Electronics: A Revolutionary New Approach for the Design and Implementation of Future RF Band-Pass Systems," Short course at Beijing Jiaotong University, December 2014, Beijing, China.
- (33) 2014 IEEE EMC Symp., Raleigh, NC(Tutorial),Aug.2014
Hideki Asai(Invited):SI/PI/EMI Issues and Exploitation of CAE in High-Speed Electronic Design (Tutorial)
- (34) The Joint Conference 4S-2014/AVIC2014 hosted by ICDREC (Ho Chi Minh), Oct.2014 **Hideki Asai**(Special talk):Advanced Modeling and Simulation Techniques for 3-D SI/PI/EMI Design
- (35) **Hideki Asai**(Special talk):Toward Reduction and Optimization of Common-mode Noise for Automotive EMC Design , IEEE EPEPS2014, Portland, OR, USA, Oct.2014
- (36) **Hideki Asai**(Invited):Next Generation SI/PI/EMI Simulation Technology (Tutorial), IEICE General Conf., Kusatsu, Japan, March 2015
- (37) **Hideki Asai**(Invited):Three I's (SI/PI/EMI) -Yesterday, Today, & Tomorrow, IEICE General Conf., Kusatsu, Japan, March 2015 (IEICE Fellow Anniversary Lecture)
- (38) **Hiroo Sekita**, Technical Program Secretary of 4S-2014/AVIC2014, Ho Chi, Minh, Vietnam, Oct. 22-24, 2014.
- (39) **Hiroo Sekiya**, General \Secretary of NCSP2015, Kuala Lumpur, Malaysia, Feb. 28- Mar. 2, 2015.
- (40) **Lipo Wang**, Organizing Committee Co-Chair, 2015 11th International Conference on Natural Computation (ICNC 2015) , 15-17 August 2015, Zhangjiajie, China (Supported by NCAS; Technical Co-Sponsor: IEEE CASS, pending)
- (41) **Lipo Wang**, Organizing Committee Co-Chair, 2015 12th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2015), 15-17 August 2015, Zhangjiajie, China (Supported by NCAS; Technical Co-Sponsor: IEEE CASS, pending).
- (42) **Lipo Wang**, Organizing Committee Co-Chair, 2014 10th International Conference on Natural Computation (ICNC 2014) , 19-21 August 2014, Xiamen, China (Technical Co-Sponsor: IEEE CASS).
- (43) **Lipo Wang**, Organizing Committee Co-Chair, 2014 11th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2014), 19-21 August 2014, Xiamen, China (Technical Co-Sponsor: IEEE CASS).
- (44) **Lipo Wang**, Keynote Speaker, International Conference on Micro Electronics, Electromagnetics and Telecommunications (ICMEET 2015), 18-19 December 2015, India(Invited lectures).
- (45) **Lipo Wang**, Keynote Speaker, "Natural Computation for Data Mining and Optimization", International Conference on Science, Engineering and Management Research (ICSEMR 2014), November 27-29, Chennai, India(Invited lectures).
- (46) **Lipo Wang**, Invited Speaker, WIRN 2015, 25th Italian Workshop on Neural Networks, May 20-22,

Vietri sul Mare, Salerno, Italy(Invited lectures).

- (47) **Lj. Trajkovicv**, Special Sessions Co-Chair, IEEE International Conference on Systems, Man, and Cybernetics, SMC 2017, Banff, Canada, October 2017.
- (48) **Lj. Trajkovicv**, Technical Program Co-Chair, 6th International Conference and Workshop on Computing and Communication, IEMCON 2015, Vancouver, British Columbia, Canada, October 15-17, 2014.
- (49) **Lj. Trajkovicv**, General Co-Chair, IEEE International Conference on Systems, Man, and Cybernetics, SMC 2016, Budapest, Hungary, October 9-12, 2016.
- (50) **Lj. Trajkovicv**, General Chair, Third International Symposium on Women in Computing and Informatics, WCI 2015, Kochi, Kerala, India, August 10-13, 2015.
- (51) **Lj. Trajkovicv**, Organizing Committee, 2014 IEEE International Workshop on Complex Systems and Networks, Shanghai, China, October 2014.
- (52) **Lj. Trajkovicv a**, Publications Co-Chair, IEEE International Conference on Systems, Man, and Cybernetics, SMC 2014, San Diego, California, USA, October 5-8, 2014.
- (53) **Lj. Trajkovicv**, General Co-Chair, 2014 IEEE 15th International Conference on High Performance Switching and Routing, HPSR 2014, Vancouver, British Columbia, Canada, July 1-4, 2014.
- (54) **Lj. Trajkovicv**, International Programme Committee, 19th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, KES 2015, Singapore, Sept. 7-9, 2015: <http://kes2015.kesinternational.org/>.
- (55) **Lj. Trajkovicv**, International Advisor, International Circuits and Systems Symposium, ICSYS 2015, Langkawi, Malaysia, Sept. 2-4, 2015: <http://cas.ieeemy.org/icsys2015/>.
- (56) **Lj. Trajkovicv**, Advisory Committee, International Conferences on Access Networks, Services and Technologies, ACCESS 2014, Seville, Spain, June 22-26, 2014: <http://www.iaria.org/conferences2014/ACCESS14.html>.
- (57) **Lj. Trajkovicv**, Advisory Committee, International Conference on Recent Developments in Control, Automation and Power Engineering, RDCAPE 2015, Noida, India, Mar. 12-13, 2015: <http://rdcape.com/>.
- (58) **Lj. Trajkovicv**, Advisory Committee, International Conference on Informatics and Communication Technologies for Social Development, ICICTS 2014, Coimbatore, Tamil Nadu, India, Mar.13-15, 2014: <http://www.karunya.edu/it/icicts14/>.
- (59) **Lj. Trajkovic**, "Communication networks: traffic data, network topologies, and routing anomalies," International Conference on Signal Processing and Integrated Networks, Amity University, Noida, Delhi, India, February 2015 (invited talk)
- (60) **Lj. Trajkovicv**, International Conference on Signal Processing and Integrated Networks, Amity University, Noida, Delhi, India, February 2015 (invited talk).
- (61) **Lj. Trajkovic**, "Communication networks: traffic data, network topologies, and routing anomalies," 2014 2nd International Conference on Systems and Informatics, Shanghai, China, November 2014 (keynote talk).
- (62) **Lj. Trajkovic**, "Complex networks: traffic data, network topologies, and routing anomalies," 2014

IEEE International Workshop on Complex Systems and Networks, Shanghai, China, October 2014 (invited talk).

- (63) **Lj. Trajkovic**, “Analysis of traffic data in communication networks,” Obuda University, Budapest, Hungary, September 2014 (invited talk).
- (64) **Lj. Trajkovic**, “Analysis of traffic data in communication networks,” The First Euro-China Conference on Intelligent Data Analysis and Applications, Shenzhen, China, June 2014 (keynote talk).
- (65) **Lj. Trajkovic**, “Information routing in complex networks,” International Workshop on Complex Networks and Applications, Melbourne, Australia, May 2014 (invited talk).
- (66) **Lj. Trajkovic**, “Complex networks: traffic data, network topologies, and routing anomalies,” 2014 IEEE International Workshop on Complex Systems and Networks, Shanghai, China, October 2014 (invited workshop).
- (67) **Mustak E. Yalcin**, "A Novel Chaotic Time-delay Sampled-data System and its Circuit Implementation," 7th International Workshop on Chaos-Fractals Theories and Applications (IWCFTA), Qingdao, China, September 12, 2014.
- (68) **Xiang Li**, Evolutionary game of network cooperation: From consensus to distributed optimization, “Evolution of cooperation” NSFC-IIASA Conference, Beijing, China-Germany Center, 2014 April. (Invited Lecture).
- (69) **Xiang Li**, Structural controllability of temporal networks and beyond, Network Science Forum of China, Beijing, 2014 April. (Keynote speaker).
- (70) **Xiang Li**, Probing into Human Interactive Patterns with Temporal Complex Networks, The 2nd International Workshop of Pattern Recognition and Big-data Engineering, Beijing, 2014 May. (Keynote speaker).
- (71) **Xiang Li**, Structural controllability of temporal networks and beyond, International Workshop on Complex Networks and Applications (IWCNA’2014), Melbourne, 2014 May. (Keynote speaker).
- (72) **Xiang Li**, On structural controllability of temporal networks, International Conference of Nonlinear Science and Applications (NSA’2014), Shanghai, 2014 June. (Keynote speaker).
- (73) **Xiang Li**, Exploring human interactive dynamics, Chinese Conference of Complex Networks (CCCN’2014), Changsha, 2014 Oct., (Keynote speaker).
- (74) **Xiang Li**, Cooperative optimization in a complex network, Chinese Forum of Network Science Forum, Shanghai, 2015 April. (Keynote speaker).
- (75) **Sergio Callegari** was an invited lecturer at the lecture cycle “Developing Inter-disciplinary Education in Circuits and Systems Community”. The set of lectures was sponsored by the IEEE as an IEEE Circuits and Systems Society Activity and hosted at Politecnico di Milano, Italy. Sergio Callegari presented the short course: “Convex Optimization in the design of the noise shaping features of Delta-Sigma modulators” The short course is directly related with the areas of interest of the TC and the lecture cycle involved a few other members of the NCAS TC, including M. Peter Kennedy and Federico Bizzarri (who is applying for membership in the TC this year). Sergio Callegari and Federico Bizzarri (who is applying for membership in the NCAS TC this year) gave the tutorial “Digital high order Delta-Sigma Modulators: the Design of the Noise shaping Features as an Optimization Problem” The tutorial was authored by Sergio Callegari, Federico Bizzarri and M. Peter Kennedy. The

tutorial theme is directly related with the areas of interest of the TC. At submission time, the tutorial enjoyed the endorsing of the NCAS TC.

2. Distinguished Lecturer in 2014-2015:

- (1) **Geza_Kolumban**, The above-mentioned talks were delivered by Prof. Geza Kolumban, who served IEEE as a distinguished lecturer in 2013 and 2014.

3. Editorial Services:

- (1) **Chai Wah Wu**, Senior Editorial Board Member, IEEE JETCAS
- (2) **Chai Wah Wu**, Deputy Editor-in-Chief, IEEE CAS magazine
- (3) **Dimitri**, journals JMM, conferences ICECS, ISCAS, NEWCAS
- (4) **Guanrong Chen**, Editor-in-Chief, International Journal of Bifurcation and Chaos (2010-present)
- (5) Jinhu Lu, Associate Editor of IEEE Transactions on Industrial Electronics (2013-)
- (6) Jinhu Lu, Associate Editor of IEEE Transactions on Industrial Informatics (2011-)
- (7) Jinhu Lu, Associate Editor of International Journal of Bifurcation and Chaos (2012-2017)
- (8) Jinhu Lu, Associate Editor of International Journal of Circuit Theory and Applications(2014-)
- (9) Jinhu Lu, Associate Editor of IEEE Transactions on Circuits and Systems II (2012-2015)
- (10) **Lipo Wang**, Guest Editor, Neural Processing Letters, Special Issue on Nature-Inspired Learning, 2015
- (11) **Lipo Wang**, Associate Editor, Soft Computing: An International Journal, 2002 - present
- (12) **Lipo Wang**, Editorial Board Member, Cognitive Neurodynamics, 2005 – present
- (13) **Lipo Wang**, Editorial Board Member, Evolutionary Intelligence, 2008 – present
- (14) **Lipo Wang**, Editorial Board Member, Automatic Control, a series of Technical Transactions, 2013 – present
- (15) **Lipo Wang**, Editorial Board Member, International Journal on Business Intelligence and Data Mining, 2004 – present
- (16) **Lipo Wang**, Editorial Board Member, International Journal of Computational Intelligence and Applications, 2006 – present
- (17) **Lipo Wang**, Editorial Board Member, International Journal of Computational Intelligence Theory and Practice, 2006 – present
- (18) Elwakil, Special issue on fractional-order circuits in the J. Circuits Systems and Signal Processing. The CFP is attached.
- (19) Elwakil, Special session at NOLTA. CFP is also attached.
- (20) **Marco**, reviewer for IEEE TCAS1 and TCAS2 (and for other international journals)
- (21) **Z. Galias**, Associate Editor, IEEE Circuits and Systems Magazine.
- (22) **Z. Galias**, Associate Editor, International Journal of Bifurcation and Chaos.
- (23) **Z. Galias**, Associate Editor, Nonlinear Theory and Its Applications, IEICE (NOLTA).
- (24) **Mustak E. Yalcin**, Associate Editor for the International Journal of Bifurcation and Chaos in Applied Sciences and Engineering.

- (25) **Mustak E. Yalcin**, Guest Editor for the Institute of Electronics, Information and Communication Engineers (IEICE).
- (26) **Mustak E. Yalcin**, Guest Editor for Entropy, Special Issue: Recent Advances in Chaos Theory and Complex Networks.
- (27) **Xiang Li**, IEEE Transactions on Circuits and Systems-I: Regular Papers, Associate Editor.
- (28) **Xiang Li**, IEEE Circuits and Systems Society Newsletters, Associate Editor.
- (29) **Xiang Li**, Control Engineering Practice, Associate Editor.
- (30) **Wei Xing Zheng**, Associate Editor, Automatica.
- (31) **Wei Xing Zheng**, Associate Editor, IET Control Theory & Applications.
- (32) **Wei Xing Zheng**, Associate Editor, IEEE Transactions on Automatic Control.
- (33) **Wei Xing Zheng**, Associate Editor, IEEE Transactions on Fuzzy Systems.
- (34) **Wei Xing Zheng**, Associate Editor, Circuits, Systems and Signal Processing.
- (35) **Wei Xing Zheng**, Associate Editor, IEEE Transactions on Cybernetics.
- (36) **Shujun Li**, Heliyon, Editorial board member, March 2015
- (37) **Shujun Li**, Journal of Visual Communication and Image Representation (JVCI), Editorial board member, 2012-
- (38) **Shujun Li**, Journal of Information Security and Applications (JISA), Editorial board member, 2012
- (39) **Shujun Li**, International Journal of Bifurcation and Chaos (IJBC), Associate Editor, 2012-2014
- (40) **Sergio Callegari**, In 2014-2015, Sergio Callegari is Associate Editor and Editorial Board Member for the IEICE Nonlinear Theory and its Applications (NOLTA) Journal
- (41) **Sergio Callegari**, In 2015, Sergio Callegari is acting as a guest editor for a Special Section of the IEICE Nonlinear Theory and its Applications (NOLTA) Journal on “Random/Pseudorandom Numbers” This activity is directly related to the NCAS TC areas of interest. See above for more details.
- (42) **Sergio Callegari**, In 2014-2015 Sergio Callegari is an Editorial Board Member of the Hindawi International Scholarly Research Notes for the Computer Engineering Area.
- (43) **Sergio Callegari**, In 2014-2015 Sergio Callegari is an Editorial Advisory Board Member for the Recent Patents on Electrical and Electronic Engineering Journal
- (44) **Sergio Callegari**, In 2014, Sergio Callegari acted as a Technical Program Committee Member for the IEICE Nonlinear Theory and Its Applications (NOLTA) Conference. This activity is directly related to the NCAS TC areas of interest. See above for more details.
- (45) **Sergio Callegari** has been a member of the Program Committee for the Latin American Symposium on Circuits & Systems (LASCAS) 2015. His role was to select reviewers for a subset of papers, most of which directly related to the NCAS TC areas of interest.
- (46) **Sergio Callegari** has been a Review Committee Member for the International Symposium on Circuits and Systems (ISCAS) 2015. His role was to select reviewers for a subset of papers, most of which directly related to the NCAS TC areas of interest.
- (47) During 2014-2015, **Sergio Callegari** has been a reviewer for various papers submitted to the ISCAS 2015, LASCAS 2015, ECCTD 2015, NOLTA 2015 conferences. Most of the papers he reviewed were directly related to the NCAS TC areas of interest. In the same period, he has been a reviewer for the

IEEE Transactions on Circuits and Systems – Part I Journal, again with reference to papers directly related to the NCAS TC areas of interest.

- (48) **Lj. Trajkovicv**, Editor: Nonlinear Theory and its Applications (NOLTA), Institute of Electronics, Information and Communication Engineers (IEICE) (2009 - present)
- (49) **Lj. Trajkovicv**, Associate Editor: IEEE RFID Virtual Journal (2013 - present) **Lj. Trajkovicv**, Member of the Editorial Board: Serbian Journal of Electrical Engineering (2003 - present)

4. Publications (Journal Articles, Conference Papers, Books, Book Chapters):

10 Representative Papers of NCAS TC for 2014-2015 (Curated List)

- (1) S. Zhang, X. Wu, J. Lu, H. Feng, **J. H. Lü**, "Recovering structures of complex dynamical networks based on generalized outer synchronization," IEEE Transactions on Circuits and Systems I, vol. 61, no. 11, pp. 3216-3224, Nov. 2014.
- (2) R. Haroun, **A. El Aroudi**, A. Cid-Pastor, G. Garcia, C. Olalla, L. Martinez-Salamero, "Impedance Matching in Photovoltaic Systems Using Cascaded Boost Converters and Sliding-Mode Control," IEEE Transactions on Power Electronics, vol.30, no.6, pp.3185-3199, June 2015.
- (3) **X. Li**, P. Rao, "Synchronizing a weighted and weakly-connected Kuramoto-oscillator digraph with a pacemaker," IEEE Trans. Circuits and Systems-I, vol. 62, no. 3, pp.899-905, Mar. 2015.
- (4) S. Ding and **W. X. Zheng**, "Nonsmooth attitude stabilization of a flexible spacecraft," IEEE Transactions on Aerospace and Electronic Systems, Vol. 50, No. 2, pp. 1163-1181, 2014.
- (5) T. Lin, Z. Zhou, **K. Thulasiraman**, G. Xue, S. Sahni, "Unified Mathematical Programming Frameworks for Survivable Logical Topology Routing in IP-over-WDM Optical Networks," IEEE/OSA Journal of Optical Communications and Networking (JOCN), vol. 6, no. 2, pp. 190 – 203, Feb. 2014.
- (6) G. Xue, R. Gottapu , X. Fang , D. Yang and **K. Thulasiraman**, "A Polynomial Time Algorithm for Computing DisjointLightpath in Minimum Failure WDM Optical Networks," IEEE/ACM Trans. Networking, vol. 22, , pp, 470-483, Apr. 2014
- (7) Z. Lin, S. Yu, **J. H. Lü**, S. Cai, and G. Chen, "Design and ARM-embedded implementation of a chaotic map-based real-time secure video communication system," IEEE Transactions on Circuits and Systems for Video Technology, 27 October 2014. [DOI:10.1109/TCSVT.2014.2369711]
- (8) R. Haroun, A. Cid-Pastor, **A. El Aroudi**, and L. Martinez-Salamero, "Synthesis of Canonical Elements for Power Processing in DC Distribution Systems Using Cascaded Converters and Sliding Mode Control," IEEE Transactions on Power Electronics, vol. 29, pp. 1366-1381, no. 03, Mar.2014.
- (9) M. Biggio, F. Bizzarri, A. Brambilla, **M. Storage**, "Accurate and efficient PSD computation in mixed-signal circuits: a time domain approach," /IEEE Transactions on Circuits and Systems-II: Transaction Briefs/, vol. 61, N. 11, pp. 905-909, Nov. 2014.
- (10) **Z. Galias**, "Automatized search for complex symbolic dynamics with applications in the analysis of a simple memristor circuit," Int. J. Bifurcation and Chaos, vol. 24, no. 7, eid. 1450104, 2014.

Journal Articles

- (11) Y. Chen, D. W. C. Ho, **J. H. Lü** and Z. Lin, "Convergence rate for discrete-time multi-agent systems with time-varying delays and general coupling coefficients," *IEEE Transactions on Neural Networks and Learning Systems*, conditionally acceptable for publication, 18 December 2014.
- (12) P. Wang, **J. H. Lü** and X. Yu, "Colored noise induced bistable switch in the genetic toggle switch systems," *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, in press, accepted on 1 November 2014.
- (13) Z. Lin, S. Yu, **J. H. Lü**, S. Cai, and G. Chen, "Design and ARM-embedded implementation of a chaotic map-based real-time secure video communication system," *IEEE Transactions on Circuits and Systems for Video Technology*, 27 October 2014. [DOI:10.1109/TCSVT.2014.2369711]
- (14) S. Tan, **J. H. Lü**, and D. J. Hill, "Towards a theoretical framework for analysis and intervention of random drift on general networks," *IEEE Transactions on Automatic Control*, vol. 60, no. 2, pp. 576-581, Feb. 2015.
- (15) P. Wang, **J. H. Lü**, X. Yu, and Z. Liu, "Duplication and divergence effect on network motifs in undirected bio-molecular networks," *IEEE Transactions on Biomedical Circuits and Systems*, in press, 25 July 2014.
- (16) C. Shen, S. Yu, **J. H. Lü**, and G. Chen, "Constructing hyperchaotic systems at will," *International Journal of Circuit Theory and Applications*, in press, 2015.
- (17) S. Zhang, X. Wu, J. Lu, H. Feng, **J. H. Lü**, "Recovering structures of complex dynamical networks based on generalized outer synchronization," *IEEE Transactions on Circuits and Systems I*, vol. 61, no. 11, pp. 3216-3224, Nov. 2014.
- (18) P. Wang, **J. H. Lü**, and X. Yu, "Identification of important nodes in directed biological networks: A network motif approach," *PLoS One*, vol. 9, no. 8, art. no. e106132, Aug. 2014. [SCI]
- (9) S. Tan and **J. H. Lü**, "Characterizing the effect of population heterogeneity on evolutionary dynamics on complex networks," *Scientific Reports*, vol. 4, art. no. 5034, May 2014. [SCI]
- (10) R. Haroun, **A. El Aroudi**, A. Cid-Pastor, G. Garcia, C. Olalla, L. Martinez-Salamero, "Impedance Matching in Photovoltaic Systems Using Cascaded Boost Converters and Sliding-Mode Control," *IEEE Transactions on Power Electronics*, vol.30, no.6, pp.3185-3199, June 2015.
- (11) D. Giaouris, K. Mandal, S. Banerje, M. Al-Hindawi, A. Abusorrah, Y. Al-Turki, **A. El Aroudi**, "Analysis of Discontinuity Induced Bifurcations in a Dual Input DC-DC Converter," *International Journal of Bifurcation and Chaos*, in press, 2015.
- (12) E. Rodriguez, **A. El Aroudi**, E. Alarcon and H. Iu, "A Frequency Domain Approach for Controlling Fast-Scale Instabilities in Switching Power Converters," *International Journal of Bifurcation and Chaos*, in press, 2015
- (13) M. Bodetto, A. Marcos-Pastor, **A. El Aroudi**, J. Calvente and L. Martienez-Salamero, "Design of AC-DC PFC High-Order Converters with Regulated Output Current for Low Power Applications," *IEEE Transactions on Power Electronics*, to be published, 2015.
- (14) M. Bodetto, A. Marcos-Pastor, **A. El Aroudi**, A. Cid-Pastor, E. Vidal-Idiarte, "Modified Cuk Converter for High Performance Power Factor Correction Applications," *IET Power Electronics*, in press, 2015.

- (15) K. Mandal, **A. El Aroudi**, Al-Hindawi, A. Abusorrah, Y. Al-Turki, D. Giaouris, S. Banerjee, "Nonlinear Modeling and Stability Analysis of Resonant DC-DC Converters," *IET Power Electronics*, in press, 2015.
- (16) W. Lu, N. Zhao, J. Wu, **A. El Aroudi** and L. Zhou, "Filter-based perturbation control of low-frequency oscillation in voltage-mode H-bridge DC-AC inverter," *International Journal of Circuit Theory and Applications*, in press, published online 2014.
- (17) **A. El Aroudi**, H. Ouakkad, L. Benadero and M. Younis, "Analysis of Bifurcation Behavior of a Piecewise Linear Vibrator for Energy Harvesting Applications," *International Journal of Bifurcation and Chaos*, vol. 24, no. 05, May. 2014.
- (18) R. Haroun, A. Cid-Pastor, **A. El Aroudi**, and L. Martinez-Salamero, "Synthesis of Canonical Elements for Power Processing in DC Distribution Systems Using Cascaded Converters and Sliding Mode Control," *IEEE Transactions on Power Electronics*, vol. 29, pp. 1366-1381, no. 03, Mar. 2014.
- (19) M. Bodetto; **A. El Aroudi**; A. Cid-Pastor; L. Martinez-Salamero, "High performance hysteresis modulation technique for high-order PFC circuits," *Electronics Letters*, vol. 50, no. 2, pp. 113-114, Jan. 2014.
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- (34) **Z. Galias**, "Automatized search for complex symbolic dynamics with applications in the analysis of a simple memristor circuit," *Int. J. Bifurcation and Chaos*, vol. 24, no. 7, eid. 1450104, 2014.
- (35) **M.E.Yalcin**, R. Yeniceri, and S. Ozoguz, "A Chaotic Time-delay Sampled-data System and its Implementation," *International Journal of Bifurcation and Chaos*, vol. 44, no 3, 2014.
- (36) R. Yeniceri, S. Kilinc, and **M. E. Yalcin**, "Attack on A Chaos-based Random Number Generator Using Anticipating Synchronization," *International Journal of Bifurcation and Chaos*, vol. 25, no 2, 2015.
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- (47) J. Zhang and **W. X. Zheng**, "Design of adaptive sliding mode controllers for linear systems via output

- feedback," IEEE Transactions on Industrial Electronics, vol. 61, no. 7, pp. 3553-3562, Jul. 2014.
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- (49) W.-H. Chen, X. Lu and **W. X. Zheng**, "Impulsive stabilization and impulsive synchronization of discrete-time delayed neural networks," IEEE Transactions on Neural Networks and Learning Systems, Vol. 26, No. 4, pp. 734-748, Apr. 2015.
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- (51) Y. Xiao, **K. Thulasiraman**, GuoliangXue and Mamta Yadav, "QoS Routing under Multiple Additive Constraints: A Generalization of the LARAC Algorithm," IEEE Transactions on Emerging topics in Computing, IN Print.
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- (53) T. Lin, Z. Zhou, **K. Thulasiraman**, G. Xue, S. Sahni, "Unified Mathematical Programming Frameworks for Survivable Logical Topology Routing in IP-over-WDM Optical Networks," IEEE/OSA Journal of Optical Communications and Networking (JOCN), vol. 6, no. 2, pp. 190 – 203, Feb. 2014.
- (54) G. Xue, R. Gottapu, X. Fang, D. Yang and **K. Thulasiraman**, "A Polynomial Time Algorithm for Computing Disjoint Lightpath in Minimum Failure WDM Optical Networks," IEEE/ACM Trans. Networking, vol. 22, , pp. 470-483, Apr. 2014
- (55) R. Schmitz, **S. Li**, C. Grecos and X. Zhang, "Towards Robust Invariant Commutative Watermarking-Encryption based on Image Histograms," International Journal of Multimedia Data Engineering and Management (IJMDEM), vol. 5, no. 4, pp. 36-52, Dec. 2014
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Conference Papers

- (1) S. Haeri, R. Gill, M. Hay, T. Wong, and **Lj. Trajkovic**, "Multihoming with Locator/ID Separation Protocol: an experimental testbed," in *Proc. The 7th IEEE/IFIP International Workshop on Management of the Future Internet*, Ottawa, ON, Canada, May 2015, pp. 1238-1241.
- (2) Syed and **Lj. Trajkovic**, "Improving VHT MU-MIMO communications by concatenating long data streams in consecutive groups," in *Proc. 2015 IEEE Wireless Communications and Networking*

Conference - Workshop - Next Generation WiFi Technology, New Orleans, LA, USA, pp. 117-122, Mar. 2015.

- (3) M. Cosovic, S. Obradovic, and **Lj. Trajkovic**, "Performance evaluation of BGP anomaly classifiers," in *Proc. The Third International Conference on Digital Information, Networking, and Wireless Communications (DINWC 2015)*, Moscow, Russia, pp. 115-120, Feb. 2015.
- (4) M. Cosovic, S. Obradovic, and **Lj. Trajkovic**, "Using databases for BGP data analysis," in *Proc. UNITECH 2014*, Gabrovo, Bulgaria, Nov. 2014, vol. 2, pp. 367-370.
- (5) Y. Li, H. J. Xing, Q. Hua, X.-Z. Wang, P. Batta, S. Haeri, and **Lj. Trajkovic**, "Classification of BGP anomalies using decision trees and fuzzy rough sets," in *Proc. IEEE International Conference on Systems, Man, and Cybernetics (SMC 2014)*, San Diego, CA, October 2014, pp. 1331-1336.
- (6) S. Haeri and **Lj. Trajkovic**, "Deflection routing in complex networks," in *Proc. IEEE Int. Symp. Circuits and Systems*, Melbourne, Australia, June 2014, pp. 2217-2220.
- (7) **Colombo**, "Numerically Efficient Robustness Test for Nonlinear Circuit Models," International Symposium on Circuits and Systems, 2015.
- (8) **Colombo**, "A Mathematical Framework for Cooperative Collision Avoidance of Human-Driven Vehicles at Intersections," International Symposium on Wireless Communication Systems, 2014.
- (9) H. Ahn, **A. Colombo**, and D. Del Vecchio, "Supervisory Control for Intersection Collision Avoidance in the Presence of Uncontrolled Vehicles," American Control Conference, 2014.
- (10) Bonfiglio, A. Oliveri, R. Procopio, F. Delfino, G.B. Denegri, M. Invernizzi, **M. Stora**, "Improving Power Grids Transient Stability Via Model Predictive Control," in *Proceedings of the 18th Power Systems Computation Conference (PSCC'14)*, Wroclaw, Poland, August 18-22, 2014, paper ID 316.
- (11) Oliveri, L. Cassottana, A. Formentini, M. Marchesoni, **M. Stora**, "Model Predictive Control of a powertrain system with backlash," in *Proceedings of the 2014 International Symposium on Nonlinear Theory and its Applications (NOLTA2014)*, Luzern, Switzerland, September 14-18, 2014, pp. 838-841.
- (12) Oliveri, M. Butcher, A. Masi, **M. Stora**, "Piecewise affine virtual sensor: a case study - estimation of stepping motor current from long distances," in *Proceedings of the 20th IMEKO TC-4 International Symposium on Measurements of Electrical Quantities together with 18th TC4 International Workshop on ADC and DCA Modeling and Testing (IWADC)*, Benevento, Italy, September 15 - 17, 2014, pp. 447-451.
- (13) **Z. Galias** and X. Yu, "On zero-order holder discretization of delayed sliding mode control systems," in *Proc. IEEE Int. Symposium on Circuits and Systems, ISCAS'14*, pages 1255-1258, Melbourne, May 2014.
- (14) **Z. Galias**, "Study of dynamical phenomena in the Muthuswamy-Chua circuit," in *Proc. Int. Conference on Signals and Electronic Systems, ICSES'14*, Poznań, 2014.
- (15) **Z. Galias** and W. Tucker, "A systematic approach to find periodic sinks of the Hénon map close to the classical case," in *Proc. Int. Symposium on Nonlinear Theory and its Applications, NOLTA'14*, pages 771-774, Luzern, 2014.

- (16) L. Savkay, N. Yildiz, E. Cesur, **M.E. Yalcin**, and V. Tavsanoğlu, "Realization of Processing Blocks of CNN Based Casa System on CPU and FPGA," in Proc. of the 2014 IEEE International Symposium on Circuits and Systems (ISCAS 2014), Melbourne, Australia, June 1-5, 2014.
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- (17) R. Yeniceri, E. Abtioglu, B. Govem, **M. E. Yalcin**, "A 16×16 Cellular Logical Network with partial reconfiguration feature," Cellular Nanoscale Networks and their Applications (CNNA), 2014 14th International Workshop on , vol., no., pp.1,2, 29-31 July 2014, doi: 10.1109/CNNA.2014.6888620.
- (18) E. Goncu, M. E. Yalcin, "A new Cellular Automata model with Memory and its FPGA implementation," Cellular Nanoscale Networks and their Applications (CNNA), 2014 14th International Workshop on , vol., no., pp.1,2, 29-31 July 2014 doi: 10.1109/CNNA.2014.6888627.
- (19) O.L. Savkay, E. Cesur, **M. E. Yalcin**, V. Tavsanoğlu, "Sperm Morphology Analysis with CNN based algorithms," Cellular Nanoscale Networks and their Applications (CNNA), 2014 14th International Workshop on , vol., no., pp.1,2, 29-31 July 2014 doi: 10.1109/CNNA.2014.6888647.
- (20) J. Cui, Y. Zhang, **X. Li**, "Contextual relationship in temporal social networks: circle link," 2014 International Symposium on Nonlinear Theory and its Applications (NOLTA2014), Luzern, 260-263.
- (21) Y. Pan, **X. Li**, "Towards a graphic tool of structural controllability of temporal networks," IEEE Int. Symposium on Circuits and Systems (ISCAS 2014), Melbourne, 1784-1787.
- (22) A. Li, **X. Li**, "Changbing Tang, "An Evolutionary Game Optimization to Vertex Cover of Dynamic Networks," Proceedings of the Chinese Control Conference, 2014, 2757-2762.
- (23) S. Ding and **W. X. Zheng**, "New design method of sliding mode controller for a class of nonlinear second-order systems," Proc. 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), pp. 2784-2787, Melbourne, Australia, June 2014.
- (24) J. Liang and **W. X. Zheng**, "Distributed state estimation for sensor networks with randomly occurring sensor saturations," Proc. 47th IEEE International Symposium on Circuits and Systems (ISCAS'2014), pp. 2305-2308, Melbourne, Australia, June 2014.
- (25) Y. Mamta and **K. Thulasiraman**, "Network Science Meets Circuit Theory: Kirchhoff Index of a graph and the Power of Node to Datum Resistance Matrix," IEEE International Symposium on Circuits and Systems, IEEE International Symposium on Circuits and Systems (ISCAS), May 2015.
- (26) Z. Zhou, T. Lin, **K. Thulasiraman**, "Survivable Cloud Network Mapping with Multiple Failures," IEEE International Conference on Communications (ICC), June 2015.
- (27) F. Liu, H. Wang, L-M. Cheng, Anthony T.S. Ho and **S. Li**, "Enhanced Perceptual Image Authentication with Tamper Localization and Self-Restoration," in Proceedings of 2014 IEEE International Conference on Multimedia and Expo (ICME 2014, Chengdu, China, July 14-18, 2014).
- (28) M. Davidson, K. Renaud and **S. Li**, "jCAPTCHA: Accessible Human Validation," in Computers Helping People with Special Needs: 14th International Conference, ICCHP 2014, Paris, France, July 9-11, 2014, Proceedings, Part I, Lecture Notes in Computer Science, vol. 8547, pp 129-136, 2014

- (29) M. Fabbri and **S. Callegari**, "Very low cost entropy source based on chaotic dynamics retrofittable on networked devices to prevent RNG attacks," in Proc. 21st IEEE International Conference on Electronic Circuits and Systems (ICECS), Marseille, France, Dec. 2014
- (30) H. N. Beirami and **S. Callegari**, "Fundamental performance limits of chaotic-map random number generators," in Proc. of the 52nd Annual Allerton Conference on Communication, Control, and Computing, Sep. 2014, pp. 1126–1131. DOI:10.1109/ALLERTON.2014.7028581
- (31) **S. Callegari**, F. Bizzarri, and A. M. Brambilla, "Optimal quantization noise management in wideband fractional-N PLLs," in Proc. of ISCAS2015, 2015, accepted for publication.
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Books and Book Chapters

- (1) **Abdelali El Aroudi**, "Nonlinear vibrational energy harvesting systems for micro- and nanoscale applications", co-authored with Elena Blokhina, and Dimitri Galayko and Eduard Alarcon, to be published, 2015.
- (2) X. C. Fu, M. Small and **G. Chen**, Propagation Dynamics on Complex Networks: Models, Methods and Stability Analysis, 314pp, Wiley and Higher-Education Press, Beijing, 2014
- (3) **G. Chen**, X. F. Wang and X. Li, Fundamentals of Complex Networks: Models, Structures and Dynamics (2nd ed.), 438pp, Wiley, New York - Singapore - Beijing, 2015
- (4) **Hiroo Sekiya**, Wireless Power Transfer (in Japanese, Section VIII)
- (5) **Hiroo Sekiya**, Guest editor of "Network Sciences and Engineering," NOLTA Journal, IEICE.
- (6) S. Haeri and **Lj. Trajkovic**, "Information Routing in Complex Networks," to appear in "Complex Systems and its Applications," Eds. J. Lu, X. Yu, and W. Yu, Springer Verlag.
- (7) Yeniceri R., Ozoguz S. and **Yalcin M. E.**, "A Chaotic Time-Delay Sampled-Data System with Applications," in New Research Trends in Nonlinear Circuits: Design, Chaotic Phenomena and Applications (Ioannis Kyprianidis, Ioannis Stouboulos and Christos Volos (Editors)), Chapter 3, pp.59-72, Nova Science Pub. ISBN: 978-1-63321-406-4, 2014.
- (8) **Xiang Li**, Y.Q. Zhang, A.V. Vasilakos, Discovering and predicting temporal patterns of WiFi-interactive social populations, in Opportunistic Mobile Social Networks, CRC Press, 2014. ISBN: 9-7814-6659-4944.
- (9) **K. Thulasiraman**, S. Arumugam, Andreas Brandstadt and T. Nishizeki, "Handbook of Graph Theory, Combinatorial Optimization and Algorithms" Taylor and Francis, In Print.
- (10) P. Burrascano, **S. Callegari**, A. Montisci, M. Ricci, and M. Versaci, Eds., Ultrasonic Nondestructive Evaluation Systems — Industrial Application Issues. Springer International Publishing, 2015.
- (11) S. Caporale, **S. Callegari**, D. A. Hutchins, S. Laureti, P. Burrascano, and M. Ricci, "Ex-citation and deconvolution in ultrasound nondestructive testing systems", in Ultrasonic Nondestructive Evaluation Systems, P. Burrascano, S. Callegari, A. Montisci, M. Ricci, and M. Versaci, Eds. Springer International Publishing, 2015, pp. 85–140. DOI:10.1007/978-3-319-10566-6_4

- (12) S. Caporale, **S. Callegari**, M. Ricci, and P. Burrascano, “Excitations and signal processing for multiprobe setups”, in *Ultrasonic Nondestructive Evaluation Systems*, P. Burrascano, S. Callegari, A. Montisci, M. Ricci, and M. Versaci, Eds. Springer International Publishing, 2015, pp. 141–171. DOI:10.1007/978-3-319-10566-6_5
- (13) L. Battaglini, **S. Callegari**, S. Caporale, L. A. J. Davis, S. Laureti, L. Senni, and D. A. Hutchins, “Industrial applications of noncontact ultrasonics techniques”, in *Ultrasonic Nondestructive Evaluation Systems*, P. Burrascano, S. Callegari, A. Montisci, M. Ricci, and M. Versaci, Eds. Springer International Publishing, 2015, pp. 271–295. DOI:10.1007/978-3-319-10566-6_11

5. Awards, Honors, and Patents:

- (1) Jinhu Lu, 2014 ISI Highly Cited Researcher in Engineering
- (2) Jinhu Lu, 2014 The Young and Middle-Aged Leading Scientists, Engineers and Innovators from the Ministry of Science and Technology of China
- (3) Jinhu Lu, 2014 The Young Scientists Award of the Chinese Academy of sciences [10 persons/per year]
- (4) Guanrong Chen, 2014 Member, Academia Europaea
- (5) Guanrong Chen, 2014 Honorary Doctorate (Doctoris Honoris Causa) of Le Havre University, France
- (6) **Chai Wah Wu**

	PAT. NO.	Title
1	8,922,834	Hybrid halftone generation mechanism using change in pixel error
2	8,922,802	Method and system for halftoning using energy minimization
3	8,807,691	Print head alignment mechanism
4	8,773,722	Hybrid halftone generation mechanism using change in pixel error

- (7) **Xiang Li**, 2014 National Distinguished Young Scholarship Program of Natural Science Foundation of China.
- (8) **Xiang Li**, 2014 Highly Cited Chinese Researcher by Elsevier, Electronic Engineering Field.
- (9) **Ljiljana Trajkovic**, 2015 IEEE Canada E. F. Glass Western Canada Merit Award, May 4, 2015: For exemplary and long service to the Vancouver Section and chapters.
- (10) **Ljiljana Trajkovic**, Honorary Professor of Obuda University, September 1, 2014.

6. Other IEEE Service:

- (1) **Chai Wah Wu**, IEEE-EAB ABET evaluator, Moody’s Mega Math Challenge Judge, Webmaster/Social Media, IEEE Mid-Hudson section, Publicity Chair, IEEE Mid-Hudson section
- (2) **Geza Kolumban**, Meetings were organized for professionals in the following topics and contents:
 - 1) **Title** SDE: A Revolutionary Change in Design and Teaching Paradigm of RF Radio Communications Systems
 - Content:** Band-pass signals are used everywhere in radio communications and measurement engineering. The band-pass property of signals to be processed makes the substitution of each RF/microwave/optical analog signal processing possible with a low-frequency digital one according to the concept of Software

Defined Electronics (SDE). In SDE concept, the high frequency band-pass signal is transformed into the BaseBand (BB) by a universal HW device and every application is implemented in BB and entirely in software. The key features of SDE concept are: (i) it requires the lowest sampling rate attainable theoretically and (ii) the same universal HW device is used in every application. Many emerging applications from cognitive radio to adaptive systems need a huge level of flexibility where not only the parameters but even the function of devices has to be changed, many times dynamically. The software defined implementation is the only platform which can fulfill this requirement. The seminar surveyed the theory of equivalent BB transformation and introduced the universal HW device that has to be used to perform the transformation between the RF and BB domains. A step-by-step approach was shown for the derivation of BB equivalents. To demonstrate the usability of SDE concept in scientific research, the SW implementation of a chaos-based radio link was shown where a MATLAB BB simulator developed to proof the concept is integrated into a PXI-based test bed to perform the real field tests and performance evaluation.

Start Time 2014-05-06 10:00:00

End Time 2014-05-06 12:00:00

Budapest, Hungary

2.) **Title:** HW based versus SW based approaches in wireless communication

Content:A wireless communication system can be defined either (i) in the traditional way, i.e. in hardware based on the operation of the physical building blocks of the system or (ii) in software that relies on an algorithm-based description of the operation. Both approaches has to provide the same operation in terms of functionality. A huge difference between the two approaches is flexibility. Purely hardware based solutions offer a very limited capability in evaluating the communication system in different conditions (e.g. interferences in the communication channel or changing channel conditions) since the physical environment in which the performance of the communication system is to be evaluated is a must to be present. However software based solutions have the potential to evaluate the performance of a communication system in such channel channel condition that is not available physically but can be generated in software. In that case the signal radiated by a software based system may contain the unavailable but the desired channel condition to be investigated in terms of performance. The seminar focused on the flexibility offered by software based communication systems. The necessary theoretical background was provided with live demonstrations on the spot

Start Time 2014-12-02 10:00:00

End Time 2014-12-02 12:00:00

Budapest, Hungary

3.) **Title:** Benefits offered by reconfigurable software defined platforms for the performance evaluation of wireless communication systems

Content:Reconfigurable software defined platforms facilitate prototyping by eliminating the need of designing a circuit for the performance evaluation of communication systems. The efficient development and evaluation of communication systems can be achieved by exploiting the following features provided by

the reconfigurable software defined platforms: (i) application of the theory of complex envelope to generate the RF bandpass signal from its baseband equivalent or extract the baseband equivalent of the RF bandpass signal (ii) every digital signal processing performed in the baseband (iii) the theoretically attainable lowest sampling rate can be applied. The evaluation of an other communication system or that of the communication system in different channel conditions implemented in software needs only the change of the application software or its setting. The seminar provided the necessary theoretical background and demonstration of an operating communication system to introduce the audience into the theory and application of reconfigurable software defined platforms for wireless communications.

Start Time 2014-09-26 11:00:00

End Time 2014-09-26 15:30:00

Budapest, Hungary

- (3) **Hideki**, Organization of a Special session "Signal/Power Integrity for Advanced Design" at APEMC2015(May, 2015,Taipei)
- (4) **Mustak E. Yalcin**, RCM for IEEE International Symposium on Circuits and Systems (ISCAS).
- (5) **Mustak E. Yalcin**, Member of Scientific Committee, 14th IEEE 14th International Workshop on Cellular Nanoscale Networks and their Applications, 29-31 July 2014, Notre Dame, IN, USA.
- (6) **Mustak E. Yalcin**, Publicity Chair, 14th IEEE 14th International Workshop on Cellular Nanoscale Networks and their Applications, 29-31 July 2014, Notre Dame, IN, USA.
- (7) **Xiang Li**, Co-organizers, 2014 IEEE International Workshop on Complex Systems and Networks, Shanghai, China.
- (8) **Wei Xing Zheng** serves on the International Steering Committee of the IEEE Asia Pacific Conference on Circuits and Systems (APCCAS).
- (9) **Shujun Li**, IEEE CCSNA 2015 (3rd Workshop on Cloud Computing Systems, Networks, and Applications): Publicity Co-Chair.
- (10) **Shujun Li**, TPC Membership, GLOBECOM 2015 (58th IEEE Global Communications Conference, Exhibition and Industry Forum, San Diego, CA, USA, 6-10 December 2015)
- (11) **Shujun Li**, TPC Membership, ICIP 2015 (22nd IEEE International Conference on Image Processing, Quebec City, Canada, 27-30 September 2015)
- (12) **Shujun Li**, TPC Membership, ICME 2015 (16th IEEE International Conference on Multimedia & Expo, Torino, Italy, 29 June – 3 July 2015)
- (13) **Shujun Li**, TPC Membership, ICC 2015 (40th IEEE International Conference on Communications, London, UK, 8-12 June 2015)
- (14) **Shujun Li**, TPC Membership, GLOBECOM 2014 (57th IEEE Global Communications Conference, Exhibition and Industry Forum, Austin, TA, USA, 8-12 December 2014)
- (15) **Shujun Li**, TPC Membership, ICCVE 2014 (3rd International Conference on Connected Vehicles & Expo, Vienna, Austria, 3-7 November 2014)
- (16) **Shujun Li**, TPC Membership, ICIP 2014 (21st IEEE International Conference on Image Processing, Paris, France, 27-30 October 2014)

- (17) **Shujun Li**, TPC Membership, ICME 2014 (15th IEEE International Conference on Multimedia & Expo, Chengdu, China, 14-18 July 2013)
- (18) **Shujun Li**, TPC Membership, ISCAS 2014 (47th IEEE International Symposium on Circuits and Systems, Melbourne, Australia, 1-5 June 2014)
- (19) **Sergio Callegari** worked as a member of a restricted committee on the evaluation of an IEEE plagiarism case , 2014
- (20) **Sergio Callegari** was a tester and advisor for the pilot version of IEEE Collabratec, 2014

7. Other Professional Service:

- (1) **Ljiljana Trajkovic**, President, IEEE Systems, Man, and Cybernetics Society (2014 - 2015)
- (2) **Ljiljana Trajkovic**, Member, IEEE Communications Society Awards Committee (2013 - 2015)
- (3) **Ljiljana Trajkovic**, Member, IEEE Fellow Committee (2014, 2013, 2012, and 2011)
- (4) **Ljiljana Trajkovic**, Member, IEEE Technical Activities Board, Nominations and Appointments Committee (2013 - 2014)
- (5) **Ljiljana Trajkovic**, Member, Circuits and Systems Society Meritorious Service Award Subcommittee (2015 and 2014)
- (6) **Ljiljana Trajkovic**, Member, NSERC Strategic Projects Selection Panel, Information and Communications Technologies (2013 - 2015)
- (7) **Ljiljana Trajkovic**, Member, NSERC Electrical Engineering Scholarships and Fellowships Selection Committee (2011 - 2014)
- (8) **Ljiljana Trajkovic**, Chair, IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections (2001 - present)
- (9) **Ljiljana Trajkovic**, Vice-Chair, IEEE Control Systems Society, Robotics and Automation Society, and Systems, Man, and Cybernetics Society Chapter of the Vancouver Section (2011 - present)
- (10) **Ljiljana Trajkovic**, Mentor, IEEE Simon Fraser University Student Branch (2008 - present)
- (11) **Hideki**. TPC chair of "The Joint Conference 4S-2014/AVIC2014" hosted by ICDREC (Ho Chi Minh), Oct.2014.
- (12) **Wei Xing Zheng**, Member of the Steering Committee of the Australian Control Conference.
- (13) **Shujun Li**, TPC Membership, IOV 2015 (2nd International Conference on Internet of Vehicles, Chengdu, China, 19-21 December 2015).
- (14) **Shujun Li**, TPC Membership, BiFor 2015 (International Workshop on Recent Advances in Digital Security: Biometrics and Forensics, Genova, Italy, 7 September 2015), co-located with ICIAP 2015 (18th International Conference on Image Analysis and Processing).
- (15) **Shujun Li**, TPC Membership, ARES 2015 (10th International Conference on Availability, Reliability and Security, Université Paul Sabatier, Toulouse, France, 24-28 August 2015).
- (16) **Shujun Li**, TPC Membership, EuCNC 2015 (24th European Conference on Networks and Communications, Paris, France, 29 June – 2 July 2015).

- (17) **Shujun Li**, TPC Membership, INTRUST 2014 (6th International Conference on Trustworthy Systems, Beijing, China, 16 & 17 December 2014).
- (18) **Shujun Li**, TPC Membership, DASIP 2014 (8th Conference on Design and Architectures for Signal and Image Processing, Madrid, Spain, 8-10 October 2014).
- (19) **Shujun Li**, TPC Membership, ARES 2014 (9th International Conference on Availability, Reliability and Security, University of Fribourg, Switzerland, 8-12 September 2014).
- (20) **Shujun Li**, TPC Membership, IOV 2014 (1st International Conference on Internet of Vehicles, Beijing, China, 27-28 August 2014)

8. Media and Popular Press:

- (1) M. Fabbri and **S. Callegari**, “Very low cost entropy source based on chaotic dynamics retrofittable on networked devices to prevent RNG attacks”, in Proc. 21st IEEE International Conference on Electronic Circuits and Systems (ICECS), Marseille, France, Dec. 2014 .