IEEE Technical Committee on Nonlinear Circuits and Systems
Annual Report to the IEEE Circuits and Systems Society
May 2012

Contributions
Members of the Technical Committee have reported the following contributions for the period May 2011-May 2012:

Books written/edited

Book chapters written
Special issues edited

M. di Bernardo with I Belykh, M Porfiri and J. Kuerths, Special Issue on Evolving Dynamical Networks, *Physica D*

H. Sekiya, Special Section on Papers Awarded the Student Paper Award at NCSP’11, *Journal of Signal Processing*, vol. 15, no. 4, July 2011


Conferences, workshops organized

S. Callegari, Short Course on Oscillation Based Test, Chaotic Dynamics, and Complex Oscillation Based Test, University of Washington, WA, USA, June 2011

G. Chen (Publicity Co-Chair), IEEE Int. Conference on Automation and Logistics, Chongqing, China, August 2011

G. Chen (Co-Chairman and Co-Organizer), The 4th International Workshop on Chaos-Fractals Theories and Applications, October 2011, Hangzhou, China (technically sponsored by TC-NCAS)


F. Corinto (Organizer), Workshop supported by IEEE CAS,”Memristor: From Theory to Applications”, Politecnico di Torino, Italy, December 2011

J. Lu (Program Co-Chair), 7th Chinese Conference on Complex Networks, Chengdu, China, October 2011

J. Lu (Co-Organizer), 8th Chinese Workshop on Networks Science, Beijing, China, April 2012

J. Lu (International Publicity Co-Chair, 37th Annual Conference of the IEEE Industrial Electronics Society, Melbourne, Australia, November 2011

Y. Nishio (General Chair) and Y. Uwate (Secretary), IEEE CASS Shanghai and Shikoku Chapters Joint Workshop on Nonlinear Circuits and Systems (SSJW’11), Shanghai, China, November 2011

Y. Nishio (General Chair), T. Ueta (Technical Program Chair) and Y.Uwate (Technical Program Secretary), RISP International Workshop on Nonlinear Circuits, Communications and Signal Processing (NCSP’12), Hawaii, U.S.A, March 2012

C.K. Tse, International Workshop on Chaos-Fractals Theories and Applications, Hangzhou, China, October 2011

C.K. Tse, International Workshop on Complex Networks and Systems, Melbourne, Australia, September 2012

T. Ueta and C.K. Tse (Technical Program Co-Chairs), Y. Nishio and W.K. S. Tang (Special Session Co-Chairs) and T. Hisakado (General Secretary), International Symposium on Nonlinear Theory and its Applications (NOLTA’11), Kobe, Japan, September 2011

T. Ueta and Y. Nishio (Workshop Co-Organizers), International Workshop on Nonlinear Maps and their Applications (NOMA’11), Évora, Portugal, September 2011

Members also served on the Technical Program Committees and Review Committees of a number of conferences.

Special sessions organized

S. Banerjee, Special Session on Nonsmooth Dynamics of Electrical Systems, ISCAS, Rio, Brazil, May 2011

G. Chen, Special Session on Complex Networks and Multi-agent Systems, 37th Annual Conference of IEEE Industrial Electronics Society (IECON 2011), Melbourne, Australia, November 2011

M. di Bernardo, Two Minisymposia on Evolving Dynamical Networks co-organized with I Belykh, M Porfiri and J. Kuerths, SIAM Conference on Applied Dynamical Systems, Snowbird, Utah, USA, May 2011

C. Göknar, Special Sessions on Circuit and Systems Education - History and Future Prospects-1 and 2, 7th International Conference on Electrical and Electronics Engineering, Bursa, Turkey, December 2011

X. Li, Invited Session on Collective Behavior Analysis and Control via Predictive Mechanisms, Chinese Control Conference, Yantai, China, July 2011

Y. Nishio, Special Session on Image Processing and Pattern Recognition, RISP International Workshop on Nonlinear Circuits, Communications and Signal Processing (NCSP'12), Honolulu, Hawaii, March 2012


Y. Uwate, Special Session on Coupled Oscillatory Circuits and Networks, International Symposium on Nonlinear Theory and its Applications, Kobe, Japan, September 2011

Y. Uwate, Special Session on Cellular Neural Networks and their Applications, RISP International Workshop on Nonlinear Circuits, Communications and Signal Processing, Honolulu, Hawaii, March 2012

M. Storace, Special Session on Model Predictive Control on Embedded Systems (Part 1 and Part 2), 18th World Congress of the International Federation of Automatic Control (IFAC), Milan, Italy, August 2011

Invited lectures delivered


H. Asai, "GPU-Based Acceleration of the Time-Domain Electrical Full-Wave Solvers in PI/SI/EMI Simulation", International Conf. on Electromagnetics in Advanced Applications, Torino, Italy


M. di Bernardo, Invited Lecture at International School on Complex Dynamics Engineering, October 2011

M. di Bernardo, Invited Plenary Lecture, International Workshop on Complex Systems and Networks, Melbourne, Australia, September 2011

M. di Bernardo, Invited Plenary Lecture, Workshop on Control of Complex Systems, University of Warwick, February 2012

C. Göknar, "Foundations of Nonlinear Circuit Theory: Passivity, Losslessness and Reciprocity", Invited lecture, University of Pavia, Italy, May 2011

C. Göknar, "Cellular Neural Networks and Two Intelligent Applications", Invited lecture, University of Pavia, Italy, May 2011
C. Göknar, "Fault Diagnosis in Digital Circuits", Invited lecture, University of Pavia, Italy, May 2011

M.P. Kennedy, "Digital Delta-Sigma Modulation: Theory and Applications", Università degli Studi di Pavia, Pavia, Italy, January 2012


M.P. Kennedy, "What Every Electrical Engineer Should Know about Nonlinear Circuits and Systems", Seconda Università degli Studi di Napoli, Aversa, Italy, April 2012

X. Li, "Large-scale spatial epidemic in social population and interactive complex networks", International workshop on computation aspects of social and information networks, Microsoft Research Asia, Beijing, July 2011.

W.-K. Ling, "Trend study for financial data analysis via empirical mode decomposition", School of Business, University of Lincoln, September 2011.

W.-K. Ling, "Optimal pulse width modulation control for power electronics", School of Electrical, Electronic and Computer Engineering, University of Western Australia, August 2011


J. Lu, “Pinning Control of Complex Dynamical Networks and Its Applications in Mechanical Systems”, Invited Talk, 5th National Workshop on Dynamics and Control for Young Scholars, Qingdao, China, July 2011

J. Lu, “Consensus of Multi-Agent Systems: Some Recent Advances”, Plenary Talk, Workshop on Networks Synchronization and Control, Shenzhen, China, January 2012

J. Lu, “From Complex Networks to System Biology”, Plenary Talk, 8th Chinese Workshop on Networks Science, Beijing, China, April 2012


K. Thulasiraman, Invited Lectures at National Chiao Tung University, Tshinghua University, National Cheng Kung University and Academia Sinica, Taiwan


Lj. Trajkovic, "Teaching and learning for new generations of engineers", South China University of Technology, Guangzhou, China, July 2011

C.K. Tse, "Applications of Complex Networks Research", Singapore CAS Chapter, January 2012

C.K. Tse, "Applications of Complex Networks Research", Budapest CAS Chapter, Hungary, November 2011

C.K. Tse, "Applications of Complex Networks Research", Kansai CAS Chapter, Japan, September 2011
Website and mailing list
The Technical Committee website www.eecs.berkeley.edu/~ljilja/tcncas contains links to annual reports, meeting minutes, TC news, our vision and a list of members and their email addresses. This page continues to be maintained as we transition to the new CAS-TC website http://ieee-cas.org/community/technical-committees/ncas-tc.

The Technical Committee mailing list is ncastc-ieee@sfu.ca. Members may subscribe or unsubscribe by sending an email to ljilja@ca.sfu.ca.

Officers 2011/12
Chair: Orla Feely
Past Chair: Henry Leung
Chair Elect: Francis Lau
Secretary: Hiroo Sekiya
Track Chair for Nonlinear Circuits and Systems at ISCAS 2012: Jinhu Lu

Prepared by Orla Feely, May 2012