IEEE Technical Committee on
Cellular Nanoscale Networks and Array Computing
Annual Report to the IEEE Circuits and Systems Society
May 2013 – May 2014

Short Courses, Plenary Sessions, Keynote Speakers, Invited Lectures

1. Ricardo Carmona-Galán, "CMOS Smart Image and Vision Sensors" (in collaboration with Prof. Á. Rodríguez-Vázquez), Seminar at the Institut de Ciències del Cosmos, Universitat de Barcelona, Spain, January 2014.
10. Ángel Rodríguez-Vázquez, "Brain-Machine Interface Circuits," 8th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, Plenary Lecture, Nov. 28-30 2013, Bursa, Turkey
13. X.Vilasí-Cardona, LHCb Calorimeter Performance, invited talk, V CPAN-Days, Santiago de Compostela, España, (November 2013)
Board memberships in Conferences

2. Ronald Tetzlaff, **Scientific Committee Member**, IEEE International Workshop on Cellular Neural Networks and their Applications (CNNA), 2014.
6. Tamás Roska, **Host Chair**, IRUN Winter School on nonlinear dynamics in cellular wave computing, January 28-30, 2013, Budapest, Hungary
9. Ricardo Carmona-Galán, **Chair** of the 2nd Workshop on Architecture of Smart Camera, Seville, June 3-4, 2013 (http://eunevis.org/wasc2013/)
10. Ricardo Carmona-Galán, **Special Session Chair** and **Demo Session Co-chair** in the 14th International Workshop on Cellular Nanoscale Networks and their Applications.
14. Angela Slavova, **Organizer** of the Conference Bulgarian Section of SIAM (BGSIAM) 2013, Sofia 2013
15. Angela Slavova, **Member of the Scientific Committee** of Third and Fourth International Symposium on Radio Systems and Space Plasma, 2013.
16. Mustak E. Yalcin, **Special session chairs**: (in collaboration with Mattia Frasca) "Spatio-temporal Dynamics in Memristor Circuits" 8th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, Nov. 28-30 2013, Bursa, Turkey
19. Xavier Vilasis-Cardona,

**Editorial Boards**

5. Chai Wah Wu, Senior Editorial Board Member, IEEE Journal on Emerging and Selected Topics in Circuits and Systems
6. Chai Wah Wu, Deputy Editor-in-Chief, IEEE CAS Magazine
8. Angela Slavova, Editorial Board Member, International Journal Environmental Sciences
9. Angela Slavova, Editorial Board Member, Universal Journal of Applied Mathematics
10. Mustak E. Yalcin, Guest Associate Editor, International Journal of Bifurcation and Chaos,
11. Mustak E. Yalcin, Editorial Board Member, Journal of Reconfigurable Computing

**Other IEEE Service and Professional Activities**

1. Ricardo Carmona-Galán, Member of the IEEE CASS Technical Committee on Sensory Systems (2012-present)
2. Ricardo Carmona-Galán, Member of the IEEE CASS Technical Committee on Cellular Nanoscale Networks and Array Computing (2004-present)
3. Ricardo Carmona-Galán, Secretary of the Scientific Staff Meeting, Institute of Microelectronics of Seville (Spain) 2009-present.
4. Ricardo Carmona-Galán, Member of the Institute Council, Institute of Microelectronics of Seville (Spain) 2012-present
5. Chai Wah Wu, IEEE-EAB ABET evaluator
6. Chai Wah Wu, Moody’s Mega Math Challenge Judge
7. Chai Wah Wu, Webmaster/Social Media, IEEE Mid-Hudson section
8. Chai Wah Wu, Publicity Chair, IEEE Mid-Hudson section
11. Piotr Dudek, Champion of the Special Interest Group on "Neurally-Inspired Engineering", UK Neuroinformatics Node

**Awards, Honors, Patents**


3. Chai Wah Wu, IEEE R1 Technological Innovation Award, 2013.

Publications

Journal Articles


Peer Reviewed Conference Papers

3. S. J. Carey, Á. Zarándy, P. Dudek, „Characterization of processing errors on analog fully-programmable cellular sensor-processor arrays” ISCAS-2014, Melbourne, Australia


Asim-Treffen STS/GMMS 2013, Seiten 21-29, Düsseldorf, 28.02.-01.03.2013
IEEE International Symposium on Circuits and Systems, ISCAS 2013, May 19-23 2013,
Beijing, China
20. A. Nonlinear Networks (RD-CNN), from medicine to bionics, 1st European Ph.D.
Conference, Budapest 2013.
Workshop on Nonlinear Dynamics in Electronic Systems NDES, Bari 2013 – Book of
Abstracts
22. T. Tang, R. Tetzlaff, Applying Cellular Neural Networks dynamics for image
representation, Proc of the European Conference on Circuit Theory and Design
(ECCTD), pp.1-4, 8-12 Sept. 2013, Dresden
23. Braunschweig, R.; Muller, J.; Muller, J.; Tetzlaff, R., "NERO mastering 300k CNN cells,"
Proc. of the European Conference on Circuit Theory and Design (ECCTD), pp.1-4, 8-12
Sept. 2013, Dresden
24. Weiran Cai; R. Tetzlaff, F. Ellinger, "Critical role of initial condition in the dynamics of
memristive systems: Orbital narrowing revisited", Proc. of the European Conference on
Circuit Theory and Design (ECCTD), 8-12 Sept. 2013, Dresden
25. F. Corinto, M. Gilli, A. Ascoli and R. Tetzlaff, “Complex dynamics in neuromorphic
memristor circuits”, Proc. of the European Conference on Circuit Theory and Design
(ECCTD), 8-12 Sept. 2013
Memristors with Modelica”, Proc. of the European Conference on Circuit Theory and
Design (ECCTD), 8-12 Sept. 2013, Dresden
of the European Conference on Circuit Theory and Design (ECCTD), 8-12 Sept. 2013, Dresden,
doi: 10.1109/ECCTD.2013.6662200
28. A. Ascoli, R. Tetzlaff, F. Corinto, M. Mirchev and M. Gilli, “Memristor-based filtering
applications”, Proc. Latin American Test Workshop (LATW), 2013
29. V. Senger, R. Tetzlaff “Eigenvalue based EEG signal analysis for seizure prediction“ –
6th International Workshop on Seizure Prediction, San Diego, Book of Abstracts,
November 2013
Inference in Analogue CMOS Circuits”, IEEE International Symposium on Circuits and
Systems, ISCAS 2014
fully-programmable cellular sensor-processor arrays”, IEEE International Symposium on
Circuits and Systems, ISCAS 2014
33. I.Georgilas, A.Adamatzky, D.Barr, P.Dudek and C.Melhuish, "Metachronal waves in
cellular automata: Cilia-like manipulation in actuator arrays", VI International Workshop
on Nature Inspired Cooperative Strategies for Optimisation (NICSO 2013), September
2013
34. P.Mroszczyk and P.Dudek, "Trigger-Wave Propagation in Arbitrary Metrics in
Asynchronous Cellular Logic Arrays", European Conference on Circuit Theory and
Design, ECCTD 2013, Dresden, Germany, 8-12 September 2013


39. Ascoli, R. Tetzlaff, F. Corinto and M. Gilli, "PSpice switch-based versatile memristor model", in Proc. of the IEEE International Symposium on Circuits and Systems, ISCAS 2013, May 19-23 2013, Beijing, China

40. Alsheima Osman, Ronald Tetzlaff, Identification of complex systems by Reaction-Diffusion Cellular

41. X. Vilasis-Cardona, First Years of Running for the LHCb Calorimeter Systems CALOR 2014 - Giessen (Germany)

42. MAURICIO FERRE, Joan, GASCON, David; VILASIS CARDONA, Xavier; PICATOSTE OLLOQUI, Eduardo; MACHEFERT, Frederic; LEFRANCOIS, Jacques (Universite de Paris-Sud 11); DUARTE, Olivier Radiation hard programmable delay line for LHCb Calorimeter Upgrade, TWEPP 2013 - Topical Workshop on Electronics for Particle Physics Perugia (Italy) – Sept. 2013.

43. MAURICIO FERRE, Joan, GASCON, David; VILASIS CARDONA, Xavier; PICATOSTE OLLOQUI, Eduardo; MACHEFERT, Frederic; LEFRANCOIS, Jacques (Universite de Paris-Sud 11); DUARTE, Olivier, Upgrade of the LHCb Calorimeters TWEPP 2013 - Topical Workshop on Electronics for Particle Physics, Perugia (Italy) – Sept. 2013

44. BADALOV, Alexey; CAMPORA PEREZ, Daniel Hugo; ZVYAGIN, Alexander, NEUFELD, Niko; VILASIS CARDONA, Xavier, A GPU offloading mechanism for LHCb, 20th International Conference on Computing in High Energy and Nuclear Physics (CHEP2013) Oct 2013.

Books and Book Chapters


Other Publications
