

Nonlinear Circuits and Systems Technical Committee

Annual Report 2017

May 23rd, 2016 – May 29th, 2017

Sergio Callegari, *TC Chair*

May 15, 2017



Institute of Electrical and
Electronic Engineers



Circuits and Systems
Society

Nonlinear Circuits and
Systems Technical
Committee

Introduction

Activity for the Nonlinear Circuits and Systems (NCAS) Technical Committee (TC) has been intense during the year. The TC size has slightly grown, reaching 87 members. They have been involved in a large number of tasks, including publications, lecturing, editorial activities, the organization of special sessions and scientific events, always advancing and promoting the field of nonlinear circuits and systems. One major activity has been, as usual, the organization of the Nonlinear Circuits and Systems Track at International Symposium on Circuits and Systems (ISCAS). Yet, the Committee members have worked hard on many other fronts, including reviewing and cooperation with other conferences and workshops.

This document covers the period between the ISCAS 2016 (Montreal) and ISCAS 2017 (Baltimore). It is based on data received from 21 members.¹ Even if this number is in line with the previous years, it is only a fraction of the current membership and as such can only provide a *sampling* of the activities of the TC members.

The report is organized as follows:

Part I provides a summary of the significant events in the Technical Committee history through the year;

Part II offers some highlights on activity of the individual Technical Committee members in the framework of the Committee activities and focus area;

Part III provides data about the organization of the Nonlinear Circuits and Systems Track at ISCAS.

An Appendix offers a detailed view on the individual members' contributions.

¹Report contributed by: Soumitro BANERJEE, Federico BIZZARRI, Elena BLOKHINA, Sergio CALLEGARI, Chi Tsun (Ben) CHENG, Alessandro COLOMBO, Manuel DOMINGUEZ-PUMAR, Abdelali EL AROUDI, Ahmed ELWAKIL, Todd FREEBORN, Zbigniew GALIAS, Izzet Cem GOKNAR, Francis LAU, Yoshifumi NISHIO, Alberto OLIVERI, Hiroo SEKIYA, Marco STORACE, Ljiljana TRAJKOVIC, Yoko UWATE, Lipo WANG.

Part I

Summary of significant events in the Technical Committee

1 Membership changes

Some new members were accepted in the TC during the ISCAS 2016 meeting, including: Prof. Rong Zhihai; Prof. Alberto Oliveri; Dr. Manuel Dominguez-Pumar; Dr. Todd Freeborn; Prof. Tyrone Lucius Fernando. Some more membership applications are pending evaluation as this report is being drafted. The up to date members' roster is constantly available at a dedicated page in the Technical Committee website.

2 Revision of the Technical Committee Bylaws

Progress has been made in the update of the TC Bylaws, following the setup of a dedicated working group at the end of the previous reporting period. Here is a timeline of the relevant events:

- By Oct 2016, the working group readied a draft of the new Charter, based on the template that CASS offered to its TCs, as well as on the past Bylaws, current practices and ongoing discussion from the previous years.
- Through Oct to Dec 2016, comments and modification proposals were collected from the TC members.
- In Jan 2016, the individual modification proposals were voted online, leading to a final draft.
- In Mar 2017, the final draft was put up for an online vote. Unfortunately, the voting was concluded without reaching quorum (that is set to 50% of the membership at large for electronic vote).

The vote has been rescheduled to happen during the Annual meeting at ISCAS 2017.

3 Participation in CASS initiatives

Under solicitation of the CASS President, the TC worked to stimulate the nomination of IEEE Fellow candidates and to identify the strongest members of the TC community that would be qualified.

4 Endorsement of Conferences and Workshops

The TC practiced the evaluation and endorsement of a few conferences. Specifically, after discussion among its members, the NCAS TC endorsed

- the International Workshop on Complex Systems and Networks (IWCSN) 2017, for IEEE CASS technical co-sponsorship.
- the International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD) 2017, for IEEE CASS technical co-sponsorship.
- the International Conference on Electronics, Circuits and Systems (ICECS) 2017, for IEEE CASS technical or financial co-sponsorship.

5 Selection of Conference Track Chairs for the NCAS area

The NCAS TC gives its contribution to assuring the quality of IEEE conferences by collaborating with the organizers in the selection of expert Track Chairs whenever an NCAS Track is involved. Specifically:

- Two volunteers from the NCAS TC, namely Ahmed Elwakil and Lipo Wang, were suggested as Track Chairs for the NCAS area at the New Generation of Circuits and Systems (NGCAS) conference 2017.
- An exchange is in progress with respect to ICECS 2017.

Part II

Activity of the Technical Committee Members

6 Lecturing activity at Conferences and Events

Many members of the NCAS TC enjoy a significant international recognition. Together with their approachability and availability, this has traditionally resulted in a large number of invited talks, keynote speeches, tutorials, short courses and seminars, the last year being no exception. Specifically:

- 4 TC members gave 10 keynote speeches at international conferences;
- 2 TC members gave 9 invited talks on 5 different topics at Universities and conferences;
- 2 TC members gave 2 keynote speeches at a seasonal training school;
- 1 TC member gave a tutorial at an international conference.

Among the many talks and tutorials, most of them were directly related to the TC scope. One of them was focused on motivational aspects for young professionals.

7 Participation in the Distinguished Lecturer Program

During the reporting period, two TC members were involved in the IEEE CASS Distinguished Lecturer Program (DLP), one as the DLP Chair, and one as a Distinguished Lecturer.

8 Special Issues and special sessions

During the reporting period, one TC member edited a special issue on a major international journal. Furthermore, 3 TC members, organized 8 special sessions at international conference.

9 Editorial services

The good international reputation of its members lets the Technical Committee be very well represented across the editorial boards of scientific journals and the program committees of international conferences. Specifically 29 TC members took 63 editorial roles in international journals, ranging from the editor role (16 cases), to the associate editor one (35), to the role of guest associate editor for special issues (1), to the more generic participation in editorial boards. The involved journals range from very prestigious IEEE publications to more regional or more specific ones. The focus area is centered around circuits and systems,

but the areas of control-theory, communications, modeling and simulation, physics and mathematics, signal processing, optimization, computer programming, renewable energy, neurodynamics are also represented. This reflects the fact that the Committee is by its very definition wide spectrum, and highly devoted to cooperation with nearby research areas.

In two cases, the participation of TC members in editorial journals is particularly intense. The first one is the Institute of Electronics, Information and Communication Engineers (IEICE) Nonlinear Theory and its Applications (NOLTA) journal, whose editorial board comprises 21 TC members. This is understandable as the focus of the journal is almost perfectly overlapping with the TC scope. The second one is, to a lesser extent, the International Journal on Circuit Theory and Applications (Wiley).

Editorial activities are also related to the organization of NCAS related tracks in international conferences. Four TC members acted as Track Chairs or Co-Chairs at ISCAS and LASCAS. Furthermore, more members are likely to take a similar role at the forthcoming ICECS and NGCAS, following recent exchanges with the conference organizers.

For what concerns the participation in the technical program committees of scientific conferences, this has been extremely intense, involving 11 TC members in 56 cases. It is worth mentioning that one TC member alone was in the technical program committees of 33 scientific conferences.

10 Organization of conferences and events

During the reporting period, the NCAS TC members had an intense activity in the organization of conferences and other events. Specifically, 15 TC members were or currently are in Conference Committees as Chairs, Co-Chairs, Vice-Chairs or Secretaries in coordination roles involving the technical programs, finance, workshops, special sessions, plenary sessions, etc., for a total of 43 participations. Notably, in 20 cases, these TC members have the main organizing or general Chair or Co-Chair role.

11 Publications

During the reporting periods, the TC members authored:

- 2 books, one on research themes, the other more focused on education. One of the books is the first volume in a two parts series. All the authored books are strictly related to the TC focus area.
- 94 (in fact, probably more) articles on major scientific journals;
- 8 book chapters, which in many cases appear in books edited by TC members;
- 1 extended follow-up of a conference publication, collected in volume;
- 95 (in fact, probably more) conference papers deserving mention in this report, for their particular value or relevance to the TC scope.

Furthermore, the TC members edited:

- 3 scientific volumes, strictly related to the TC focus area.

12 Patents

During the reporting period one TC member prepared the filing of a national patent.

13 Awards and honors

The recognition enjoyed by many NCAS TC members has been testified also by some significant awards. Specifically, 6 TC members were awarded during the reporting period. In 5 cases, this was for best papers: young author journal paper (1), best paper in conference session (3), best paper in conference (1). In one case, this was for leadership in a local Chapter.

14 Other services

TC members served the IEEE and other institutions at many levels. Specifically:

1. 2 TC members served in the CASS Board of Governors;
2. 1 TC member served in IEEE Governing bodies, such as the Technical Activities Board, the Nomination and Appointments Committee, The Technical Activities Board, the Hall of Honor Selection Committee, the Fellow Committee.
3. 1 TC member was a past President of another IEEE Society.
4. 6 TC members were leader in various IEEE local Chapters and Sections with roles ranging from Chairing local chapters to being Treasures, Operation Chair, etc.
5. 2 TC members are in the Steering Committees of major conferences (PRIME, NGCAS, TSP).
6. 3 TC members have leadership roles in other TCs within CASS.
7. 1 TC member is a member of a national research council.

15 Highlights on cooperation within the TC and with other TCs

15.1 Cooperation within the TC

For many of the publications listed in Sects. 11 and Appendix F, TC members worked in co-authorship, so testifying how the TC represents a facilitator for scientific cooperation. This is particularly true of edited books, where TC members often took responsibility of different Chapters. A similar pattern exists for Special Issues and Special Sessions.

15.2 Cooperation with other CASS TCs

Many of the achievements listed in this report have been possible, or anyway favored, through the cooperation with other Technical Committee. Examples of cooperation include the set up of Tracks at major international conferences. For instance, one TC member worked as Track Co-Chair at ICECS 2016, together with members of the *Neural Systems and Applications* TC, for the setup of a Track on Neural Networks and Fuzzy Systems.

A significant indicator of the level of cooperation with other TCs is the fact that many NCAS TC members serve also there, often taking leadership roles.

Part III

Management of Tracks dedicated to Nonlinear Circuits and Systems at International Conferences

16 The TC managed Track at ISCAS 2017

At ISCAS 2017, the NCAS TC took responsibility of a Track dedicated to *Nonlinear Systems and Circuit Theory* (Track 9). This track had 55 submissions, which marks a -35% change with respect to the previous year. The two years are actually not directly comparable, because a significant restructuring of the ISCAS tracks was decided at the CASS level. As a result, the Track ranked 12th among the 18 ISCAS tracks.

The Review Committee for the track involved 19 experts, all of them members of the NCAS TC. They did a remarkable job in assuring that high quality and timely reviews were available to assist the manuscript selection process. The Review Committee Members worked under the constant coordination of Marco Storace and Dimitri Galayko who served as the Track Chairs. A total of 243 reviewers were assigned, with an average of 4.4 reviewers per paper and 3.85 sets of comments returned per paper.

After the review process, 24 contributions were accepted (16 for lecture presentation and 8 for poster presentation). Cooperation with the Track Chairs of other ISCAS Tracks and the authors, allowed some redirection of papers to and from other tracks to occur in order to maximize the coherence between the paper contents and the hosting conference sessions. Specifically, 2 submissions were redirected to other tracks, while one submission was received from another track. The final acceptance ratio for the track was 44%. The papers were organized in 3 lecture sessions and 1 poster session. Eight members from the TC volunteered to serve as session chairs for these sessions.

The presentations and posters were organized along 8 subtracks, namely:

- 9.1 Circuit theory
- 9.2 Complex network analysis, graph theory & applications
- 9.3 Chaos, Bifurcation & Applications
- 9.4 Theory and modelling of oscillators and PLLs
- 9.5 Nonlinear theory and analysis in circuits and dynamical system design
- 9.6 Modeling and simulation methods for nonlinear circuits and systems
- 9.7 Nonlinear and networked control
- 9.8 Other areas in nonlinear systems and circuit theory

Detailed statistics on the submission among different sub-tracks are listed in Table 1.

Table 1: Paper counts and decisions by sub-track for manuscripts in the Track managed by the NCAS TC at ISCAS 2017

Topic	All Papers	All Accepted Papers	Accepted Lecture Papers	Accepted Poster Papers	Rejected Papers	Withdrawn Papers	Papers With No Decision
9.0	Nonlinear Systems and Circuit Theory Track						
9.1	7	1 14%	1 14%	0 0%	6 86%	0 0%	0 0%
9.2	15	7 47%	4 27%	3 20%	8 53%	0 0%	0 0%
9.3	5	3 60%	3 60%	0 0%	2 40%	0 0%	0 0%
9.4	6	4 67%	3 50%	1 17%	2 33%	0 0%	0 0%
9.5	2	0 0%	0 0%	0 0%	2 100%	0 0%	0 0%
9.6	15	6 40%	5 33%	1 7%	9 60%	0 0%	0 0%
9.7	2	1 50%	0 0%	1 50%	1 50%	0 0%	0 0%
9.8	3	2 67%	0 0%	2 67%	1 33%	0 0%	0 0%
Total	55	24 44%	16 29%	8 15%	31 56%	0 0%	0 0%

Appendix: details on the members' activities

A Lecturing activity at Conferences and Events

A.1 Keynote Speeches, Plenary Lectures and Invited Lectures

A.1.1 Keynote speeches and plenary lectures at scientific conferences

1. Ahmed Elwakil was a Keynote Speaker at the 39th Int. Conf.@ on Telecommunications & Signal Processing (TSP) 2016, Vienna, Austria, Jun 2016
Lecture title: Fractional-Order Circuits and Systems: An Emerging Interdisciplinary Research Topic
2. Ahmed Elwakil was a Keynote Speaker at the 28th Int. Conf. on Microelectronics (ICM) 2016, Cairo, Egypt, Dec 2016
3. Wing-Kuen Ling was a Keynote Speaker at the IEEE International Conference on Consumer Electronics China, Dec 2016
Lecture title: Optimization for signal processing
4. Wing-Kuen Ling gave a plenary lecture at the Annual Conference of Systems Engineering Society of China, Oct 2016
Lecture title: Optimization for signal processing
5. Wing-Kuen Ling was a Keynote Speaker at the Symposium on Control Theory and Applications, Apr 2016
Lecture title: Pulse width modulation control for high order systems with complex valued poles
6. Yoshifumi Nisho was a Keynote Speaker at the Taiwan and Japan Conference on Circuits and Systems (TJCAS 2016), Jul 2016, Tainan, Taiwan.
7. Lipo Wang was a Keynote Speaker at the 9th International Conference on Machine Learning and Computing (ICMLC 2017), Feb 2017, Singapore
Lecture title: Image Search and Retrieval Using Support Vector Machines
8. Lipo Wang was a Keynote Speaker at the IEEE Symposium on Computational Intelligence for Human-like Intelligence, Dec 2016, Athens, Greece
Lecture title: Towards Human-Level Intelligence in Image Classification
9. Lipo Wang was a Keynote Speaker, at the International Conference on Computational Intelligence and Applications, Jeju, Korea, Aug 2016.
10. Lipo Wang was a Keynote Speaker at the 8th International Conference on Physics and Applications (ICOPIA 2016), Aug 2016, Bali, Indonesia
Lecture title: Computational Intelligence for EEG Analysis

A.1.2 Invited lectures and talks

1. Cem Goknar gave an invited lecture at the Brno University of Technology in Jun 2016
Lecture title: DU-TCC 1209: a Multipurpose CMOS IC
2. Cem Goknar gave an invited lecture at the Brno University of Technology in Jun 2016
Lecture title: METAMUTATOR: a Versatile, Basic 4-Port and its Applications

3. Lj. Trajkovic gave an invited talk at IWCSN 2016, Georgia State University, Atlanta, USA in Nov 2016
Lecture title: Topologies and algorithms for data center networks
4. Lj. Trajkovic gave an invited talk at the National Center for High-Performance Computing, Tainan, Taiwan in Jul 2016
Lecture title: Mining network traffic data
5. Lj. Trajkovic gave an invited talk at the National Sun Yat-sen University, Kaohsiung, Taiwan in Jul 2016
Lecture title: Mining network traffic data
6. Lj. Trajkovic gave an invited talk at the National Cheng Kung University, Tainan, Taiwan in Jul 2016
Lecture title: Mining network traffic data
7. Lj. Trajkovic gave an invited talk at the 2016 International Conference on System Science and Engineering (ICSSE), NCNU, Nantou County, Taiwan, Jul 2016
Lecture title: You and your career
8. Lj. Trajkovic gave an invited talk at the National Taipei University, New Taipei City, Taiwan in Jul 2016
Lecture title: Mining network traffic data
9. Lj. Trajkovic gave an invited talk at the National Taipei University of Technology, Taipei, Taiwan in Jul 2016
Lecture title: Mining network traffic data

A.2 Tutorials, short courses, seminars, speeches at training schools

1. Ahmed Elwakil was a Keynote Speaker at COST/IEEE-CASS Seasonal Training School in Fractional-Order Systems (COST/IEEE-CASS FRACTAL) Nov 2016, Brno, Czech Republic
Lecture title: Fractional-Order Modeling of ultra-High Density Capacitors
2. Todd J. Freeborn was a Keynote Speaker at COST/IEEE-CASS Seasonal Training School in Fractional-Order Systems (COST/IEEE-CASS FRACTAL) Nov 2016, Brno, Czech Republic
Lecture title: Modeling of Biological Tissues' Properties
3. Wing-Kuen Ling gave a tutorial at the IEEE International Conference on Industrial Informatics, Jul 2016
Lecture title: Industrial informatics for future smart homes and buildings

B Participation in the Distinguished Lecturer Program

- Michael Kennedy has been and currently is Chair of the DLP program in CASS.
- Mario Di Bernardo has been and currently is in the DLP roster 2016-2017 as a Distinguished Lecturer.

C Special Issues on Scientific Journals and Special Sessions at Scientific Conferences

C.1 Special Issues

1. Ahmed Elwakil has been a guest Co-Editor for a Special Issue appeared on the Circuits, Systems and Signal Processing Journal, Springer, Vol. 35, no. 6, Jun 2016.

Title of the special issue: Fractional-Order Circuits: Theory, Design, and Applications

C.2 Special Sessions

1. Wing-Kuen Ling was the organizer of a Special Session at the Annual Conference of the IEEE Industrial Electronics Society, 2016

Session title: Emerging Techniques and Applications for Cloud and Wireless Systems

2. Wing-Kuen Ling was the organizer of a Special Session at the Annual Conference of IEEE Industrial Electronics Society, 2016

Session title: IoT-based Technologies and Applications for Public Safety and Green Environment

3. Wing-Kuen Ling was the organizer of a Special Session at the IEEE International Conference on Industrial Informatics, 2016

Session title: Wireless Communication Techniques and Advanced Signal Processing Methods for Life Science

4. Wing-Kuen Ling was the organizer of a Special Session at the IEEE International Conference on Industrial Informatics, 2016

Session title: Smart Technology for Wearable Health Care Systems

5. Wing-Kuen Ling was the organizer of a Special Session at the IEEE International Symposium on Industrial Electronics, 2016

Session title: Big Data and Cloud System Processing for Wearable Applications

6. Wing-Kuen Ling was the organizer of a Special Session at the IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing, 2016

Session title: Optimization for Time Frequency Analysis with Applications to Signal Processing and Communications

7. Wing-Kuen Ling was the organizer of a Special Session at the IEEE International Conference on Industrial Technology, 2016

Session title: Cloud and Wireless Technologies for Internet-of-Things Indoor Air Quality

8. Yoshifumi Nishio and Yoko Uwate were co-organizers of a Special Session at the International Symposium on Nonlinear Theory and Its Applications (NOLTA 2016), Nov 2016, Yugawara, Japan

Session title: Coupled Nonlinear Circuits and Networks

D Editorial Services

D.1 Activity on the Editorial Boards of Scientific Journals

1. Hideki Asai has been and currently is an Editor for the IEICE NOLTA journal.
2. Elena Blokhina has been and currently is an Associate Editor for the IEEE Transactions on Circuits and Systems — Part I, Regular Papers.
3. Elena Blokhina has been and currently is a member of the Editorial Board for Frontiers in Applied Mathematics and Statistics.
4. Sergio Callegari has been and currently is an Associate Editor for the IEEE Transactions on Circuits and Systems — Part II, Express Briefs.
5. Sergio Callegari has been and currently is an Associate Editor for the IEICE Nonlinear Theory and its Applications (NOLTA) Journal.
6. Sergio Callegari has been and currently is a member of the Editorial Board for the Hindawi International Scholarly Research Notes (Computer Engineering area).
7. Sergio Callegari has been and currently is a Guest Associate Editor for a Special Section of the IEICE Nonlinear Theory and its Applications (NOLTA) Journal, collecting papers on “Communication Sciences and Engineering.”
8. Chi Tsun (Ben) Cheng has been and currently is an Associate Editor for the IEEE Transactions on Circuits and Systems — Part II, Express Briefs.
9. Guanrong Chen has been and currently is an Editor for the IEICE NOLTA journal.
10. Abdelali El Aroudi has been and currently is Associate Editor for the IEE IET Power Electronics Journal
11. Abdelali El Aroudi has been and currently is Associate Editor for the IEE IET Electronics Letters Journal
12. Abdelali El Aroudi has been and currently is Associate Editor for the journal Modelling and Simulation in Engineering
13. Ahmed Elwakil has been and currently is Associate Editor for the Int. J. Bifurcation & Chaos, World Scientific
14. Ahmed Elwakil has been and currently is Associate Editor for the Int. J. Circuit Theory & Applications, Wiley
15. Ahmed Elwakil has been and currently is Associate Editor for the Int. J. Electronics & Communications (AEÜ), Elsevier
16. Ahmed Elwakil has been and currently is Associate Editor for the IEICE NOLTA Journal
17. Ahmed Elwakil has been and currently is a member of the Senior Editorial Board of the IEEE Journal on Emerging and Selected Topics in Circuits and Systems.
18. Orla Feely has been and currently is an Editor for the International Journal of Circuit Theory and Applications, Wiley.
19. Zbigniew Galias has been and currently is Associate Editor for the IEEE Transactions Circuits and Systems — Part II, Express Briefs.
20. Zbigniew Galias has been and currently is Associate Editor for the International Journal of Bifurcation and Chaos.

21. Zbigniew Galias has been and currently is Associate Editor for the IEICE NOLTA Journal.
22. Izzet Cem Goknar has been and currently is an Editor for the International Journal of Circuit Theory and Applications, Wiley.
23. Martin Hasler has been and currently is an Editor for the IEICE NOLTA journal.
24. Herbert Lu has been and currently is an Editor for the International Journal of Circuit Theory and Applications, Wiley.
25. Peter Kennedy has been and currently is a member of the Editorial Board for the International Journal of Circuit Theory and Applications, Wiley.
26. Peter Kennedy has been and currently is an Editor for the IEICE NOLTA journal.
27. Heinz Koepl has been and currently is an Associate Editor for the IEICE NOLTA journal.
28. Francis Lau has been and currently is an Associate Editor for the IEICE NOLTA journal.
29. Henry Leung has been and currently is an Associate Editor for the IEICE NOLTA journal.
30. Wing-Kuen Ling has been and currently is an Associate Editor for the Journal of Industrial and Management Optimization (American Institute of Mathematical Sciences)
31. Wing-Kuen Ling has been and currently is an Associate Editor for the Journal of the Franklin Institute (Elsevier)
32. Wing-Kuen Ling has been and currently is an Associate Editor for the Circuits, Systems and Signal Processing journal (Springer)
33. Wing-Kuen Ling has been and currently is an Associate Editor for the International Journal of Bifurcation and Chaos (World Scientific)
34. Wing-Kuen Ling has been and currently is an Associate Editor for the Journal of Signal Processing Theory and Applications (Columbia International Publishing)
35. Wing-Kuen Ling has been and currently is an Associate Editor for the Frontiers in Signal Processing journal (Isaac Scientific Publishing)
36. Wing-Kuen Ling was an Associate Editor for the International Journal of Computer Programming until 2016
37. Jinhu Lu has been and currently is an Editor for the International Journal of Circuit Theory and Applications, Wiley.
38. Wolfgang Mathis has been and currently is an Editor for the IEICE NOLTA journal.
39. Yoshifumi Nishio has been and currently is a member of the Editorial Board for the International Journal of Circuit Theory and Applications, Wiley.
40. Yoshifumi Nishio has been and currently is an Associate Editor for the IEEE Circuits and Systems Society Newsletter.
41. Yoshifumi Nishio has been and currently is an Associate Editor for the IEEE Transactions Circuits and Systems — Part II, Express Briefs.
42. Yoshifumi Nishio has been and currently is an Associate Editor for the International Journal of Bifurcation and Chaos.

43. Yoshifumi Nishio has been and currently is one of the Secretaries for the IEICE NOLTA Journal.
44. Maciej Ogorzalek has been and currently is an Editor for the International Journal of Circuit Theory and Applications, Wiley.
45. Maciej Ogorzalek has been and currently is an Editor for the IEICE NOLTA journal.
46. Hiroo Sekiya has been and currently is an Associate Editor for the IEICE NOLTA journal.
47. Hiroo Sekiya has been and currently is an Associate Editor for the IET Circuits Device and Systems journal.
48. Hiroo Sekiya has been and currently is an Associate Editor of the International Journal of Renewable Energy Research-IJRER.
49. Hiroo Sekiya has been and currently is an Editor of Communications Express, IEICE.
50. Gianluca Setti has been and currently is an Editor for the IEICE NOLTA journal.
51. Wallace Tang has been and currently is an Associate Editor for the IEICE NOLTA journal.
52. Ljiljana Trajkovic has been and currently is an Editor for the IEICE NOLTA journal.
53. Ljiljana Trajkovic has been and currently is an Associate Editor for the IEEE RFID Virtual Journal.
54. Ljiljana Trajkovic has been and currently is in the Editorial Board of the Serbian Journal of Electrical Engineering.
55. Tetsushi Ueta has been and currently is one of the Secretaries for the IEICE NOLTA Journal.
56. Joos Vandewalle has been and currently is an Editor for the IEICE NOLTA journal.
57. Joos Vandewalle has been and currently is a member of the Editorial Board for the International Journal of Circuit Theory and Applications, Wiley.
58. Lipo Wang has been and currently is an Associate Editor for Soft Computing: An International Journal.
59. Lipo Wang has been and currently is an Editorial Board Member for the Cognitive Neurodynamics journal.
60. Lipo Wang has been and currently is an Editorial Board Member for Automatic Control, a series of Technical Transactions.
61. Lipo Wang has been and currently is an Editorial Board Member for the International Journal on Business Intelligence and Data Mining.
62. Lipo Wang has been and currently is an Editorial Board Member for the Recent Patents on Electrical Engineering journal.
63. Chai Wah Wu has been and currently is an Associate Editor for the IEICE NOLTA journal.

D.2 Activity as Track Chair in Scientific Conferences

1. Elena Blokhina was Track Co-Chair for the Neural Networks and Fuzzy Systems Track at IEEE ICECS 2016, Monte Carlo.
2. Abdelali El-Aroudi was Track Chair at Latin American Symposium on Circuits and Systems (LASCAS) 2017, Bariloche, Argentina.
3. Dimitri Galayko was Track Chair for the “Nonlinear Systems and Circuit Theory” Track at ISCAS 2017, Baltimore, MD, USA, May 2017.
4. Marco Storace was Track Chair for the “Nonlinear Systems and Circuit Theory” Track at ISCAS 2017, Baltimore, MD, USA, May 2017.

D.3 Activity in the Technical Program Committees of Scientific Conferences

1. Federico Bizzarri was a Review Committee Member for the IEEE International Symposium on Circuits and Systems (ISCAS) 2017, Baltimore, USA.
2. Elena Blokhina was in the Program Committee of IEEE Latin American Symposium on Circuits and Systems (LASCAS) 2017, Bariloche, Argentina.
3. Elena Blokhina was in the Program Committee of IEEE Latin American Symposium on Circuits and Systems (LASCAS) 2017, Bariloche, Argentina.
4. Elena Blokhina was in the Program Committee of the European Symposium on Reliability of Electron Devices, Failure Physics and Analysis (ESREF) 2016, Halle
5. Elena Blokhina was in the Program Committee of IEEE PRIME 2016, Lisbon.
6. Sergio Callegari was in the Program Committee of IEEE International Conference on Open Source Systems & Technologies (ICOSST) 2016.
7. Sergio Callegari was in the Program Committee of the conference associated to the Argentine School of Micro-Nanoelectronics, Technology and Applications (EAMTA) 2016.
8. Alessandro Colombo was in the Program Committee of the IEEE Global Communications Conference (Globecom 2016), Dec 2016, Washington, USA
9. Alessandro Colombo was a Review Committee Member for the IEEE International Symposium on Circuits and Systems (ISCAS) 2017, Baltimore, USA.
10. Alessandro Colombo was an Associate Editor for the IEEE Conference on Automation Science and Engineering (CASE 2017), Aug 2017, Xian, China.
11. Ahmed Elwakil was in the Program Committee of the 12th Int. Conf. on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD) 2016, Aug 2016, Changsha, China.
12. Ahmed Elwakil was in the Program Committee of the 28th Int. Conf. on Microelectronics (ICM) 2016, Cairo, Egypt, Dec 2016.
13. Zbigniew Galias was a Review Committee Member for the IEEE ISCAS 2017, Baltimore, USA.
14. Zbigniew Galias was a Member of the Program Committee for the Int. Conf. Signals Electronic Syst. (ICSES), Kraków, 2016.
15. Alberto Oliveri was a Review Committee Member for Track “Nonlinear Systems and Circuit Theory” of ISCAS 2017, Baltimore, MD, USA, May 2017.

16. Alberto Oliveri was in the Program Committee of LASCAS 2017, Bariloche, Argentina, Feb 2017.
17. Alberto Oliveri was in the Program Committee of SMACD 2017 (14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design 2017), Giardini Naxos - Taormina, Italy, Jun 2017.
18. Alberto Oliveri was in the Program Committee of EAMTA 2016 (11th Argentine School of Micro-Nanoelectronics, Technology and Applications) and its associated conference CAMTA 2016 (10th Argentine Conference on Micro-Nanoelectronics, Technology and Applications), Universidad Nacional del Comahue, Facultad de Ingeniería, Neuquén, Argentina, Aug 2016.
19. Marco Storace was in the Program Committee LASCAS 2017, Bariloche, Argentina, Feb 2017
20. Marco Storace was in the Program Committee of EAMTA 2016 (11th Argentine School of Micro-Nanoelectronics, Technology and Applications) and associated conference CAMTA 2016 (10th Argentine Conference on Micro-Nanoelectronics, Technology and Applications), Universidad Nacional del Comahue, Facultad de Ingeniería, Neuquén, Argentina, Aug 2016.
21. Marco Storace was in the Program Committee of EAMTA 2017 (12th Argentine School of Micro-Nanoelectronics, Technology and Applications) and associated conference CAMTA 2017 (11th Argentine Conference on Micro-Nanoelectronics, Technology and Applications), Universidad Nacional de San Martin, San Martin, Provincia de Buenos Aires, Argentina, Jul 2017.
22. Ljiljana Trajkovic has been and currently is a member of the International Advisory Committee for the fifth IEEE Region 10 (Asia Pacific) Humanitarian Technology Conference, R10HTC 2017.
23. Ljiljana Trajkovic was in the International Programme Committee of the International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, KES 2017, KES 2016.
24. Ljiljana Trajkovic was a member of the International Advisory Committee for the conference Devices for Integrated Circuits, DevIC 2017.
25. Ljiljana Trajkovic has been and currently is in the Program Committee of the IEEE Electrical Power and Energy Conference, EPEC 2017.
26. Ljiljana Trajkovic has been and currently is in the Program Committee of the Second International Conference on Informatics and Assistive Technologies for Health-Care, Medical Support and Wellbeing, HEALTHINFO 2017.
27. Ljiljana Trajkovic has been and currently is in the Program Committee of the 2017 Tyrrhenian International Workshop on Digital Communications, "Towards A Smart And Secure Future Internet".
28. Ljiljana Trajkovic has been and currently is in the Program Committee of the 3rd International Conference on Control, Electronics, Renewable Energy, and Communications, ICCEREC 2017.
29. Ljiljana Trajkovic has been and currently is in the Program Committee of the third International Symposium on Emerging Topics in Circuits and Systems, SET-CAS 2017.
30. Ljiljana Trajkovic was in the Program Committee of the International Symposium on Women in Computing and Informatics, WCI 2016.

31. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Symposium on Women in Computing and Informatics, WCI 2017
32. Ljiljana Trajkovic was in the Program Committee of the Symposium on Bioinformatics and Bioforensics, SBB 2016,
33. Ljiljana Trajkovic has been and currently is in the Program Committee of the Symposium on Bioinformatics and Bioforensics, SBB 2017.
34. Ljiljana Trajkovic has been and currently is in the Program Committee of the Second Symposium on Advances in Applied Informatics, SAI 2017.
35. Ljiljana Trajkovic was in the Program Committee of the International Conference on Advances in Computing, Communications and Informatics, ICACCI 2016.
36. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Conference on Advances in Computing, Communications and Informatics, ICACCI 2017.
37. Ljiljana Trajkovic has been and currently is in the Program Committee of the 6th International Conference on Complex Networks and Their Applications, COMPLEX NETWORKS 2017.
38. Ljiljana Trajkovic has been and currently is in the Program Committee of the 6th International Conference on Computational Social Networks, CSoNet 2017.
39. Ljiljana Trajkovic was in the Program Committee of IEEE Globecom 2016, with respect to Selected Areas in Communications Symposium, the Green Communication Systems and Networks Track, and the E-Health Track.
40. Ljiljana Trajkovic has been and currently is in the Program Committee of * IEEE Globecom 2017 with respect to Selected Areas in Communications Symposium, the Green Communication Systems and Networks Track, and the E-Health Track.
41. Ljiljana Trajkovic was in the Program Committee of the International Conference on Data Communication Networking, DCNET 2016.
42. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Conference on Data Communication Networking, DCNET 2017.
43. Ljiljana Trajkovic was in the Program Committee of the International Conference on Pervasive and Embedded Computing, PEC 2016.
44. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Conference on Pervasive and Embedded Computing, PEC 2017.
45. Ljiljana Trajkovic was in the Program Committee of the International Conference Theory and Practice in Modern Computing, TPMC 2016.
46. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Conference Theory and Practice in Modern Computing, TPMC 2017.
47. Ljiljana Trajkovic has been and currently is in the Program Committee of the IEEE International Conference on Innovations in Intelligent Systems and Applications, INISTA 2017.
48. Ljiljana Trajkovic was in the Program Committee of the International Wireless Communications and Mobile Computing Conference, IWCMC 2016.
49. Ljiljana Trajkovic has been and currently is in the Program Committee of the International Wireless Communications and Mobile Computing Conference, IWCMC 2017.

50. Ljiljana Trajkovic has been and currently is in the Program Committee of the IEEE Conference on Cybernetics, CYBCONF 2017.
51. Ljiljana Trajkovic was in the Program Committee of the IEEE International Conference on Communications, ICC 2016, with reference to the Selected Areas in Communications Symposium
52. Ljiljana Trajkovic has been and currently is in the Program Committee of the IEEE International Conference on Communications, ICC 2017, with reference to the Selected Areas in Communications Symposium
53. Ljiljana Trajkovic has been and currently is in the Program Committee of the 2017 International Conference on Signal and Systems, ICSigSys 2017.
54. Ljiljana Trajkovic has been and currently is in the Program Committee of the Twelfth International Conference on Digital Telecommunications, ICDT 2017
55. Wing-Kuen Ling was a member of the International Program Committee at the IEEE International Symposium on Computer, Consumer and Control, 2016.
56. Wing-Kuen Ling was a member of the International Program Committee Member at the International Conference on Optimization: Techniques and Applications, 2016.

E Organization of Conferences and Events

1. Soumitro Banerjee was the main organizer of the Conference on Nonlinear Systems & Dynamics (CNSD) 2016, Indian Institute of Science Education & Research, Kolkata, India, Dec 2016.
2. Sergio Callegari has been and is currently serving as the Finance Chair for ISCAS 2018, Florence, Italy.
3. Chi Tsun (Ben) Cheng was appointed as Workshop Co-Chair for the International Conference on Cyber-enabled Distributed Computing and Knowledge Discovery, CyberC 2017, Oct 2017, Nanjing, China, with reference to the International Workshop on Smart Cities Enabling Technologies.
4. Chi Tsun (Ben) Cheng was Workshop Co-Chair at the International Conference on Cyber-enabled Distributed Computing and Knowledge Discovery, CyberC 2016, Oct 2016, Chengdu, China, with reference to the International Workshop on Smart Sensor Networks.
5. Abdelali El Aroudi was Co-Chair of the International Conference on Green Energy Conversion Systems 2017, Mar 2017, Hammamet, Tunisia
6. Mario di Bernardo has been and currently is serving as a Special Session Co-Chair for ISCAS 2018, Florence, Italy.
7. Izzet Cem Goknar has been and currently is General Co-Chair for the IEEE ICECS 2017, Batumi.
8. Marco Gilli has been and is currently serving as a Plenary Co-Chair for ISCAS 2018, Florence, Italy.
9. Wing-Kuen Ling was General Chair of the IET Symposium China 2016.
10. Wing-Kuen Ling was General Chair of the IEEE International Conference on Consumer Electronics China (ICCE-China), 2016.

11. Wing-Kuen Ling was Technical Co-Chair of the IEEE International Conference on Consumer Electronics US, 2016.
12. Yoshifumi Nishio was General Co-Chair of the IEEE CASS Guangzhou and Shikoku Chapters Joint Workshop on Circuits and Systems (GSCAS 2016), Jul 2016, Guangzhou, China
13. Yoshifumi Nishio was Technical Program Co-Chair at the IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2016), Oct 2016, Jeju, South Korea
14. Yoshifumi Nishio was General Co-Chair at the IEEE CASS Shanghai and Shikoku Chapters Joint Workshop on Circuits and Systems (SSJW 2016), Nov 2016, Shanghai, China
15. Gianluca Setti has been and is currently serving as a General Co-Chair for ISCAS 2018, Florence, Italy.
16. Marco Storace was Technical Program co-Chair of the First New Generation of Circuits and Systems Conference (NGCAS2017), Genova, Italy, Sep 2017.
17. Ljiljana Trajkovic has been and currently is the Advisory Chair for the International Workshop on Complex Systems and Networks, IWCSN 2017.
18. Ljiljana Trajkovic has been and currently is Special Sessions Co-Chair for the IEEE International Conference on Systems, Man, and Cybernetics, SMC 2017.
19. Ljiljana Trajkovic has been and currently is Technical Program Chair for the IEEE SMC 2017 Workshop on Brain-Machine Interface Systems.
20. Ljiljana Trajkovic has been and currently is General Chair for the International Symposium on Intelligent Systems Technologies and Applications, ISTA 2017.
21. Ljiljana Trajkovic was General Co-Chair of the International Conference on Signal Processing and Integrated Networks SPIN 2016.
22. Ljiljana Trajkovic was General Co-Chair of the International Conference on Signal Processing and Integrated Networks SPIN 2017.
23. Ljiljana Trajkovic was Honorary General Chair for the International WIE Conference on Electrical and Computer Engineering, WIECon-ECE 2016.
24. Ljiljana Trajkovic was General Co-Chair for the 2016 World Cybermatics Congress, Cybermatics.
25. Ljiljana Trajkovic was General Co-Chair for the IEEE International Conference on Cyber, Physical, and Social Computing, CPSCoM 2016.
26. Ljiljana Trajkovic was General Co-Chair for the IEEE International Conference on Systems, Man, and Cybernetics, SMC 2016.
27. Ljiljana Trajkovic was Technical Program Chair, for the IEEE SMC 2016 Workshop on Brain-Machine Interface Systems.
28. Ljiljana Trajkovic was Honorary Chair for the SMC 2016 Workshop on Women in Engineering.
29. Ljiljana Trajkovic was Co-Chair of the Technical Program Committee, IEEE Electrical Power and Energy Conference, EPEC 2016.
30. Ljiljana Trajkovic was Technical Program Co-Chair for the 14th IEEE International NEWCAS Conference, NEWCAS 2016.

31. Ljiljana Trajkovic was Technical Program Co-Chair for the 29th Annual IEEE Canadian Conference on Electrical and Computer Engineering, CCECE 2016
32. Ljiljana Trajkovic was General Co-Chair for the IEEE International Symposium on Ethics in Engineering, Science, and Technology, ETHICS 2016
33. Ljiljana Trajkovic was the main organizer of the International Workshop on Complex Systems and Networks, IWCSN 2016.
34. Tetsushi Ueta was General Vice Co-Chair at the Taiwan and Japan Conference on Circuits and Systems (TJCAS 2016), Jul 2016, Tainan, Taiwan
35. Yoko Uwate was the Young Professional Program Special Session Committee Chair at IEEE ISCAS 2016, Montreal.
36. Yoko Uwate was the Women in CAS Committee Chair at IEEE ISCAS 2016, Montreal.
37. Yoko Uwate was the Secretary of the IEEE CASS Guangzhou and Shikoku Chapters Joint Workshop on Circuits and Systems (GSCAS 2016), Jul 2016, Guangzhou, China
38. Yoko Uwate was the Social Media Chair at the Taiwan and Japan Conference on Circuits and Systems (TJCAS 2016), Jul 2016, Tainan, Taiwan
39. Yoko Uwate was the Women in CAS Co-Chair at the IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2016), Oct 2016, Jeju, South Korea
40. Yoko Uwate was the Secretary at the IEEE CASS Shanghai and Shikoku Chapters Joint Workshop on Circuits and Systems (SSJW 2016), Nov 2016, Shanghai, China
41. Lipo Wang was Technical Co-Chair at the 2016 International Joint Conference on Neural Networks (IJCNN 2016), a part of the 2016 IEEE World Congress on Computational Intelligence - WCCI 2016, Vancouver, Canada, Jul 2016.
42. Lipo Wang was the Organizing Committee Co-Chair for the 2016 12th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD 2016), Aug 2016, Changsha, China.
43. Lipo Wang currently is the Organizing Committee Co-Chair for the 2017 12th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD 2016).

F Publications

F.1 Authored Books

- [B1] G. Tsirimokou, C. Psychalinos and A. S. Elwakil, “Design of CMOS Analog Integrated Fractional-Order Circuits: Applications in Medicine and Biology,” Springer, 111 pages, ISBN 978-3-319-55632-1, DOI: 10.1007/978-3-319-55633-8, 2017.
- [B2] Mauro Parodi, Marco Storace, “Linear and nonlinear circuits — Basic & advanced concepts,” Vol. I, Springer, in press.

Book [B2] is the first volume (focused on memoryless circuits) of an educational book on the topic of circuit theory.

F.2 Edited Books

- [EB1] E. Blokhina, A. El Aroudi, A. Alarcon and D. Galayko (eds.) “Nonlinearity in Energy Harvesting Systems — Micro- and Nanoscale Applications”, Springer, 2016.
- [EB2] Yoshifumi Nishio (ed.), “Oscillator Circuits; Frontiers in Design, Analysis and Applications,” IET, 2016, ISBN: 978-1-78561-057-8
- [EB3] A. Colombo, M. R. Jeffrey, J. T. Lazaro, J. M. Olm. (eds.), “Extended Abstracts Spring 2016 — Nonsmooth Dynamics,” Birkhauser Mathematics, ISBN 978-3-319-55641-3.

F.3 Journal Publications

- [J1] Narasinha Suda and Soumitro Banerjee, “Why does narrow band chaos in impact oscillators disappear over a range of frequencies?”, *Nonlinear Dynamics*, vol 86, no. 3, pp. 2017–2022, DOI: 10.1007/s11071-016-3011-y, November 2016.
- [J2] V. Avrutin, Z. T. Zhusubaliyev, A. Saha, S. Banerjee, I. Sushko, and L. Gardini, “Dangerous bifurcations revisited,” *International Journal on Bifurcation & Chaos*, vol. 26, no. 14, DOI: 10.1142/S0218127416300408, December 2016.
- [J3] Bichitra Kumar Lenka and Soumitro Banerjee, “Asymptotic stability and stabilization of a class of nonautonomous fractional order systems,” *Nonlinear Dynamics*, Vol. 85, No. 1, pp. 167–177, DOI: 10.1007/s11071-016-2676-6, 2016.
- [J4] A. ElAroudi, D. Giaouris, K. Mandal, S. Banerjee, M. Al-Hindawi, A. Abusorrah, Y. Al-Turki, “Complex non-linear phenomena and stability analysis of interconnected power converters used in distributed power systems”, *IET Power Electronics*, Vol. 9, no. 5, pp. 855–863, April 2016.
- [J5] A. El Aroudi, K. Mandal, D. Giaouris, S. Banerjee, A. Abusorrah, M. Al Hindawi, and Y. Al-Turki, “Fast-scale stability limits of a two-stage boost power converter”, *International Journal of Circuit Theory and Applications*, Vol. 44, No. 5, pp. 1127–1141, May 2016.
- [J6] A. El Aroudi; K. Mandal; D. Giaouris; S. Banerjee, “Self-compensation of DC–DC converters under peak current mode control,” *Electronics Letters*, vol. 53, no. 5, pp. 345–347, Feb 2017.
- [J7] Bizzarri, F., Brambilla, A., Codecasa, L. “Harmonic Balance Based on Two-Step Galerkin Method” (2016) *IEEE Transactions on Circuits and Systems I: Regular Papers*, 63 (9), pp. 1476–1486. DOI: 10.1109/TCSI.2016.2575978.
- [J8] Agrawal, D. K., Bizzarri, F., Brambilla, A., Seshia, A. A. “Numerical Verification of an Analytical Model for Phase Noise in MEMS Oscillators” (2016) *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 63 (8), pp. 1204–1207. DOI: 10.1109/TUFFC.2016.2575364.
- [J9] F. Bizzarri; A. M. Brambilla; S. Callegari, “On the Mechanisms Governing Spurious Tone Injection in Fractional PLLs,” in *IEEE Transactions on Circuits and Systems II: Express Briefs*, in press, DOI: 10.1109/TCSII.2016.2638324.
- [J10] F. Bizzarri; A. Brambilla; S. Callegari, “Efficient and Reliable Small-Signal Estimate of Quantization Noise Contribution to Phase Noise in $\Delta\Sigma$ Fractional-N PLL,” in *IEEE Transactions on Circuits and Systems I: Regular Papers*, in press, DOI:10.1109/TCSI.2016.2645638.
- [J11] F. Bizzarri, A. Colombo, F. Dercole, and G. Storti Gajani. “Necessary and sufficient conditions for the noninvertibility of fundamental solution matrices of a discontinuous system.” *SIAM Journal on Applied Dynamical Systems*, 15:84–105, 2016.

- [J12] E. O’Riordan, D. Galayko, P. Basset and E. Blokhina, “Complete electromechanical analysis of electrostatic kinetic energy harvesters biased with a continuous conditioning circuit”, *Sensors and Actuators A (Elsevier)*, Vol. 247, pp. 379–388, 2016.
- [J13] P. Giounanlis, S. Gorreta, M. Dominguez-Pumar, J. Pons-Nin, O. Feely and E. Blokhina, “Sigma-delta effects and charge locking in capacitive MEMS under dielectric charge control”, *IEEE Trans. on Circuits and Systems II*, Vol. 64, pp. 206–210, 2017.
- [J14] Manuel Domínguez-Pumar, Chenna Reddy Bheesayagari, Sergi Gorreta, Gema López-Rodríguez, Isidro Martín, Elena Blokhina, Joan Pons-Nin, “Charge Trapping Control in MOS Capacitors,” in *IEEE Transactions on Industrial Electronics*, vol. 64, no. 4, pp. 3023–3029, 2017. DOI: 10.1109/TIE.2016.2645159
- [J15] P. Giounanlis, D. Andrade-Miceli, S. Gorreta, J. Pons-Nin, M. Dominguez-Pumar, E. Blokhina, “Circuit Modeling of a MEMS Varactor Including Dielectric Charging Dynamics”, *Journal of Physics: Conference Series*, Vol. 757, 2016 DOI: 10.1088/1742-6596/757/1/012012
- [J16] C. T. Cheng; N. Ganganath; K. Y. Fok, “Concurrent Data Collection Trees for IoT Applications,” in *IEEE Transactions on Industrial Informatics*, vol. 13, no. 2, pp. 793–799, Apr 2017, DOI: 10.1109/TII.2016.2610139.
- [J17] N. Ganganath, C. T. Cheng, and C. K. Tse, “Distributed Anti-flocking Algorithms for Dynamic Coverage of Mobile Sensor Networks,” in *IEEE Transactions on Industrial Informatics*, vol. 12, no. 5, pp. 1795–1805, Oct. 2016. DOI: 10.1109/TII.2016.2519913.
- [J18] N. Ganganath, C. T. Cheng, X. Wang, and C. K. Tse, “Community-based Informed Agents Selection for Flocking with a Virtual Leader,” *International Journal of Control, Automation and Systems*, pp. 1–10, Dec. 2016. DOI: 10.1007/s12555-015-0170-4.
- [J19] A. Colombo, G. Rodrigues de Campos, and F. Della Rossa. “Control of a city road network: distributed exact verification of traffic safety.” *IEEE Transactions on Automatic Control*, accepted, 2017.
- [J20] E. Dallal, A. Colombo, D. Del Vecchio, and S. Lafortune, “Supervisory Control for Collision Avoidance in Vehicular Networks Using Discrete Event Abstractions.” *Discrete Event Dynamic Systems*, 27:1–44, 2016.
- [J21] M. T. Atienza, S. Gorreta, J. Pons-Nin and M. Dominguez-Pumar, “Characterization of Dielectric Charging in MEMS Using Diffusive Representation,” in *IEEE Transactions on Industrial Electronics*, vol. 64, no. 2, pp. 1529–1533, 2017. DOI: 10.1109/TIE.2016.2612619.
- [J22] Manuel Dominguez-Pumar, Maria-Teresa Atienza, Lukasz Kowalski, Santiago Novio, Sergi Gorreta, Vicente Jimenez, Santiago Silvestre, “Heat flow dynamics in thermal systems described by diffusive representation”, *IEEE Transactions on Industrial Electronics*, Vol. 64, No. 1, pp. 664–673, 2017. DOI: 10.1109/TIE.2016.2605621.
- [J23] Santiago Silvestre, Llanos Mora-López, Sofiane Kichou, Francisco Sánchez-Pacheco, Manuel Dominguez-Pumar, “Remote supervision and fault detection on OPC monitored PV systems”, *Solar Energy*, Vol. 137, 2016, pp. 424–433, DOI: 10.1016/j.solener.2016.08.030.
- [J24] Sergi Gorreta, Joan Pons-Nin, Gema López, Eduard Figueras, Roger Jové-Casulleras, Carles Araguz, Pol Via, Adriano Camps, Manuel Domínguez-Pumar, “A CubeSAT payload for in-situ monitoring of pentacene degradation due to atomic oxygen etching in LEO”, *Acta Astronautica*, Vol. 126, 2016, pp. 456–462, DOI: 10.1016/j.actaastro.2016.06.028.

- [J25] M. Dominguez-Pumar, L. Kowalski, R. Calavia, E. Llobet, “Smart control of chemical gas sensors for the reduction of their time response”, *Sensors and Actuators B: Chemical*, Vol. 229, pp. 1-6, 2016 DOI: 10.1016/j.snb.2016.01.081.
- [J26] M. Dominguez-Pumar, S. Gorreta and J. Pons-Nin, “Sliding-Mode Analysis of the Dynamics of Sigma-Delta Controls of Dielectric Charging,” in *IEEE Transactions on Industrial Electronics*, vol. 63, no. 4, pp. 2320–2329, 2016. DOI: 10.1109/TIE.2015.2509914.
- [J27] M. Dominguez-Pumar, L. Kowalski, E. Llobet and R. Calavia, “Active Control of the Surface Potential of Nanostructured Layers,” in *IEEE Sensors Journal*, vol. 16, no. 8, pp. 2213–2214, 2016. DOI: 10.1109/JSEN.2016.2520494.
- [J28] L. Kowalski et al., “Spherical Wind Sensor for the Atmosphere of Mars,” in *IEEE Sensors Journal*, vol. 16, no. 7, pp. 1887–1897, 2016. DOI: 10.1109/JSEN.2015.2509168.
- [J29] A. El Aroudi, G. Garcia, K. Al Hosani, N. Al Syari, M. Al-Numay, “Analytical Multi-Parametric Stability Boundaries of DC-DC Buck Converters Under V1 Control Concept,” *International Journal of Circuit Theory and Applications*, in press, 2017.
- [J30] Mirko Bodetto, Abdelali El Aroudi, Angel Cid-Pastor, Mohammed Al-Numay, Member, “Improving the Dimming Performance of Low-Power Single-Stage AC-DC HBLED Drivers,” *IEEE Transactions on Industrial Electronics*, in press, 2017.
- [J31] A. El Aroudi, “A New Approach for Accurate Prediction of Subharmonic Oscillation in Switching Regulators-Part I: Mathematical Derivations,” *IEEE Transactions on Power Electronics*, vol. 32, no. 7, pp. 5651–5651, July 2017.
- [J32] A. El Aroudi, “A New Approach for Accurate Prediction of Subharmonic Oscillation in Switching Regulators-Part II: Case studies”, *IEEE Transactions on Power Electronics*, vol. 32, no. 7, pp. 5835–5849, July 2017.
- [J33] A. El Aroudi, J. Calvente, R. Giral, M. Al-Numay and L. Martínez-Salamero, “Boundaries of Subharmonic Oscillations Associated to Filtering Effects of Controllers and Current Sensors in Switched Converters Under CMC,” *IEEE Transactions on Industrial Electronics*, pp. 855-863, 2016.
- [J34] A. El Aroudi, M. Al-Numay, J. Calvente, R. Giral, E. Rodriguez and E. Alarcón, “Ripple and Slope Based Indexes for Prediction of Subharmonic Oscillation in Switching Converters,” *International Journal of Electronics*, 103 (12), pp. 2090–2109, 2016.
- [J35] M. Zhioua, A. El Aroudi, S. Belghit, K. H. Al Hosani, M. Al-Numay, “Modeling, Dynamics, Bifurcation Behavior and Stability Analysis of a DC-DC Boost Converter in Photovoltaic Systems,” *International Journal of Bifurcation and Chaos*, 26 (10), 165–166, 2016.
- [J36] M. Bodetto, A. Cid-Pastor, A. El Aroudi and L. Martínez-Salamero, “Design of AC–DC PFC High-Order Converters With Regulated Output Current for Low-Power Applications,” *IEEE Transactions on Power Electronics*, vol. 31, no. 3, pp. 2012–2025, March 2016.
- [J37] A. S. Elwakil, A. G. Radwan, T. J. Freeborn, A. Allagui, B. J. Maundy and M. Fouda, “Low-voltage commercial super-capacitor response to periodic linear-with-time current excitation: A case study,” *IET Circuits Devices & Syst.* DOI: 10.1049/iet-cds.2016.0139, 2017, in press.
- [J38] B. J. Maundy, A. S. Elwakil, S. Ozoguz and H. Yildiz, “Minimal two-transistor multifunction filter design,” *Int. J. Circuit Theory & Applications*, Wiley, DOI: 10.1002/cta.2319, 2017, in press.

- [J39] T. J. Freeborn, A. S. Elwakil and B. J. Maundy, "Variability of Cole-model bioimpedance parameters using magnitude-only measurements of apples from a two-electrode configuration," *Int. J. Food Properties*, Taylor & Francis, DOI: 10.1080/10942912.2017.1300810, 2017, in press.
- [J40] G. Tsirimokou, C. Psychalinos, A. S. Elwakil and K. N. Salama, "Experimental behavior evaluation of series and parallel connected constant phase elements," *Int. J. Electronics and Communications (AEÜ)*, vol. 74, pp. 5–12, April 2017.
- [J41] B. J. Maundy, S. Ozoguz, A. S. Elwakil and S. Gift, "The common-base differential amplifier and applications revisited," *Microelectronics J.*, vol. 63, pp. 8–19, May 2017.
- [J42] A. S. Elwakil, B. J. Maundy and C. Psychalinos, "On the pinched hysteresis behavior in a state-controlled resistor," *Int. J. Electronics and Communications*, vol. 74, 2017.
- [J43] A. S. Elwakil, A. Agambayev, A. Allagui and K. N. Salama, "Experimental demonstration of fractional-order oscillators of orders 2.6 and 2.7," *Chaos Solitons & Fractals*, vol. 96, March 2017, DOI: 10.1016/j.chaos.2017.01.017.
- [J44] I. Dimeas, G. Tsirimokou, C. Psychalinos and A. S. Elwakil, "Experimental verification of fractional-order filters using a reconfigurable fractional-order impedance emulator," *J. Circuits Systems and Computers*, vol. 16, no. 9, 2017, DOI: 10.1142/S0218126617501420.
- [J45] G. Tsirimokou, C. Psychalinos and A. S. Elwakil, "Electronically Tunable Fully Integrated Fractional-Order Resonator," *IEEE Trans. Circuits & Syst.—II*, DOI: 10.1109/TCSII.2017.2684710, in press.
- [J46] A. S. Elwakil, A. Allagui, T. J. Freeborn and B. J. Maundy, "Further experimental evidence of the fractional-order energy equation in supercapacitors," *Int. J. Electronics and Communications (AEÜ)*, DOI: 10.1016/j.aeue.2017.03.027, in press.
- [J47] A. S. Elwakil and B. J. Maundy, "Calculating output impedance in linear networks without source or load disconnect: The instantaneous output impedance," *Int. J. Circuit Theory & Applications*, Wiley, vol. 44, no. 1, pp. 98–108, 2016.
- [J48] A. Allagui, M. Abdelkareem, H. Alawadhi and A. S. Elwakil, "Reduced graphene oxide thin film on conductive substrates by bipolar electrochemistry," *Scientific Reports*, Nature, 6, 21281, 2016.
- [J49] G. Tsirimokou, C. Psychalinos and A. S. Elwakil, "Switched-capacitor fractional-step Butterworth filter design," *Circuits Systems and Signal Processing*, Springer, vol. 35, no. 4, pp. 1377–1393, 2016.
- [J50] T. J. Freeborn, A. S. Elwakil and B. J. Maundy, "Approximating fractional-order inverse Chebyshev lowpass filters," *Circuits Systems and Signal Processing*, Springer, vol. 35, no. 6, pp. 1973–1982, 2016.
- [J51] A. S. Elwakil, A. Allagui, B. J. Maundy and C. Psychalinos, "Low frequency oscillator using a super-capacitor," *Int. J. Electronics and Communications (AEÜ)*, vol. 70, no. 7, pp. 970–973, 2016.
- [J52] C. Psychalinos, A. S. Elwakil, A. G. Radwan and K. Biswas, "Guest Editorial: Fractional-Order Circuits and Systems: Theory, Design, and Applications," *Circuits Systems and Signal Processing*, Springer, vol. 35, no. 6, pp. 1807–1813, 2016.
- [J53] P. Ahmadi, B. Maundy, A. S. Elwakil, L. Belostotski and A. Madanayake, "A new 2nd order allpass filter in 130nm CMOS," *IEEE Trans. Circuits & Syst.—II*, vol. 63, no. 3, pp. 249–253, March, 2016.

- [J54] T. J. Freeborn, A. S. Elwakil and B. Maundy, "Compact wide frequency range fractional-order models of human body impedance against contact currents," *Mathematical Problems in Engineering*, Special Issue on Theory and Applications of Fractional Order Systems, vol. 2016, Article ID 4967937, DOI: 10.1155/2016/4967937.
- [J55] A. S. Elwakil and B. J. Maundy, "Indirect realization of the imaginary resistor jR ," *Circuits Systems and Signal Processing*, Springer, vol. 35, no. 7, pp. 2610–2615, 2016.
- [J56] M. E. Fouda, A. S. Elwakil, A. G. Radwan and B. J. Maundy, "Fractional-order two-port networks," *Mathematical Problems in Engineering*, Special Issue on Theory and Applications of Fractional Order Systems, vol. 2016, Article ID 5976301, DOI: 10.1155/2016/5976301.
- [J57] A. Allagui, A. Roja, T. Bonny, A. S. Elwakil and M. Abdelkareem, "Nonlinear time-series analysis of current signal in cathodic contact glow discharge electrolysis," *J. Applied Physics*, vol. 119 p. 203303, 2016.
- [J58] B. Maundy, A. S. Elwakil and S. Gift, "On a class of cross coupled fully differential filters," *Int. J. Circuit Theory & Applications*, Wiley, vol. 44, pp. 1425–1436, July 2016.
- [J59] C. Psychalinos, A. S. Elwakil, B. Maundy and A. Allagui, "Analysis and realization of a switched fractional-order-capacitor integrator," *Int. J. Circuit Theory & Applications*, Wiley, vol. 44, no. 11, pp. 2035–2040, 2016.
- [J60] M. Fouda, A. S. Elwakil, A. G. Radwan and A. Allagui, "Power and energy analysis of fractional-order electrical energy storage devices," *Energy*, vol. 111, pp. 785–792, Sept 2016.
- [J61] G. Tsirimokou, C. Psychalinos, A. S. Elwakil and K. N. Salama "Experimental verification of on chip CMOS fractional-order capacitor emulators," *Electronics Letters*, vol. 52, pp. 1298–1300, July 2016.
- [J62] G. Tsirimokou, C. Psychalinos, T. J. Freeborn and A. S. Elwakil, "Emulation of current excited fractional-order capacitors and inductors using OTA topologies," *Microelectronics J.*, vol. 55, pp. 70–81, Sept. 2016.
- [J63] A. Allagui, A. S. Elwakil, B. Maundy and T. J. Freeborn, "Spectral capacitance of series and parallel combinations of super-capacitors," *ChemElectroChem*, Wiley, Vol. 3, no. 9, pp. 1429–1436, Sept. 2016.
- [J64] A. Allagui, A. S. Elwakil, T. J. Freeborn and B. J. Maundy, "Reevaluation of performance of electric double-layer capacitors from constant current charge/discharge and cyclic voltammetry," *Scientific Reports*, Nature, 6:38568, Dec 2016, DOI: 10.1038/srep38568.
- [J65] T. J. Freeborn, "Estimating supercapacitor performance for embedded applications using fractional-order models" *Electron. Lett.*, vol. 52, no. 17, pp. 1478–1480, 2016.
- [J66] C. Vastarouchas, G. Tsirimokou, T. J. Freeborn, C. Psychalinos, "Emulation of a electrical-analogue of a fractional-order human respiratory mechanical impedance model using OTA topologies," *Int. J. Electron. Commun. (AEÜ)*, 2017.
- [J67] Z. Galias and X. Yu. "Analysis of delayed sliding mode control systems under zero-order holder discretization." *IEEE Trans. Autom. Control*, 61(9):2739–2744, Sept 2016.
- [J68] Y. Yan, Z. Galias, X. Yu, and C. Sun. "Euler's discretization effect on a twisting algorithm based sliding mode control." *Automatica*, 68:203–208, June 2016.
- [J69] Z. Galias. "Rigorous analysis of Chua's circuit with a smooth nonlinearity." *IEEE Trans. Circuits Syst. I*, 63(12):2304–2312, Dec 2016.

- [J70] Tamas Istvan Krebesz, G. Kolumban, C. K. Tse, F. C. M. Lau, and Hairong Dong, "Use of UWB Impulse Radio Technology in In-Car Communications: Power Limits and Optimization," *IEEE Transactions on Vehicular Technology*, to appear.
- [J71] Ling Fu Xie, Ivan Wang-Hei Ho, Soung Chang Liew, Lu Lu, and F. C. M. Lau, "The Feasibility of Mobile Physical-Layer Network Coding with BPSK Modulation," *IEEE Transactions on Vehicular Technology*, to appear.
- [J72] Guofa Cai, Yi Fang, Guojun Han, F. C. M. Lau, and Lin Wang, "A Square-Constellation-Based M-ary DCSK Communication System," *IEEE Access*, vol. 4, pp. 6295–6303, Sept 2016.
- [J73] Yi Fang, Guojun Han, Pingping Chen, F. C. M. Lau, Guanrong Chen, and Lin Wang, "A Survey on DCSK-based Communication Systems and Their Application to UWB Scenarios," *IEEE Communications Surveys & Tutorials*, vol. 18, no. 3, pp. 1804–1837, Third Quarter, 2016.
- [J74] Yunxiang Jiang, F. C. M. Lau, Ivan W. H. Ho, and Yi Gong, "Resource Allocation for Multi-User OFDMA Hybrid Full-/Half-Duplex Relaying Systems With Direct Links," *IEEE Transactions on Vehicular Technology*, vol. 65, no. 8, pp. 6101–6118, Aug 2016.
- [J75] Kwok-Tai Chui, Kim-Fung Tsang, Hao-Ran Chi, Bingo Wing-Kuen Ling and Chung-Kit Wu, "An accurate ECG-based transportation safety drowsiness detection scheme," *IEEE Transactions on Industrial Informatics*, vol. 12, no. 4, pp. 1438–1452, 2016.
- [J76] Hao Ran Chi, Kim Fung Tsang, Kwok Tai Chui, Henry Shu-Hung Chung, Bingo Wing-Kuen Ling and Loi Lei Lai, "Interference-mitigated Zigbee-based advanced metering infrastructure," *IEEE Transactions on Industrial Informatics*, vol. 12, no. 2, pp. 672–684, 2016.
- [J77] Nian Cai, Jianfa Lin, Qian Ye, Han Wang, Shaowei Weng and Bingo Wing-Kuen Ling, "A new IC solder joint inspection method for an automatic optimal inspection system based on an improved visual background extraction algorithm," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 6, no. 1, pp. 161–172, 2016.
- [J78] Ya Li, Langxiong Xie, Bingo Wing-Kuen Ling, Jiangzhong Cao and Qingyun Dai, "Efficient method for finding globally optimal solution of problem with weighted L_p norm and L_2 norm objective function," *IET Signal Processing*, vol. 10, no. 4, pp. 366–375, 2016.
- [J79] Zhijing Yang, Wei-Chao Kuang, Bingo Wing-Kuen Ling and Qingyun Dai, "Instantaneous magnitudes and instantaneous frequencies of signals with their positivity constraints via non-smooth non-convex functional constrained optimization," *IET Signal Processing*, vol. 10, no. 3, pp. 247–253, 2016.
- [J80] Qing Liu, Bingo Wing-Kuen Ling, Qingyun Dai, Zhijing Yang, Changzhi Wu and Xiangyu Wang, "Design of nonuniform transmultiplexers with block samplers and single input single output linear time invariant filters based on perfect reconstruction condition," *Circuits, Systems and Signal Processing*, vol. 35, no. 11, pp. 4081–4098, 2016.
- [J81] Ni-Li Tian, Xiao-Zhi Zhang, Bingo Wing-Kuen Ling and Zhi-Jing Yang, "Two dimensional discrete fractional Fourier transform based content removal algorithm," *Signal, Image and Video Processing*, vol. 10, no. 7, pp. 1311–1318, 2016.
- [J82] Nian Cai, Yang Zhou, Shengru Wang, Bingo Wing-Kuen Ling and Shaowei Weng, "Image denoising via patch-based adaptive Gaussian mixture prior method," *Signal, Image and Video Processing*, vol. 10, no. 6, pp. 993–999, 2016.

- [J83] Bingo Wing-Kuen Ling, Charlotte Yuk-Fan Ho, Kok-Lay Teo, Wan-Chi Siu and Qingyun Dai, "Design of variable bandwidth symmetric/anti-symmetric FIR single-band PCLS lowpass and highpass filters," *Signal, Image and Video Processing*, vol. 10, no. 1, pp. 37–43, 2016.
- [J84] A. Oliveri, L. Cassottana, A. Laudani, F. Riganti Fulginei, G. M. Lozito, A. Salvini, M. Storace, "Two FPGA-Oriented High Speed Irradiance Sensors for Photovoltaic Plants," *IEEE Transactions on Industrial Informatics, Special Section on "Monitoring, diagnosis, prognosis and techniques for increasing the life-time/reliability of photovoltaic systems"*, vol. 13, N. 1, pp. 157–165, Feb 2017, DOI: 10.1109/TII.2015.2462293.
- [J85] A. Formentini, A. Oliveri, M. Marchesoni, M. Storace, "A Switched Predictive Controller for an Electrical Powertrain System with Backlash," *IEEE Transactions on Power Electronics*, vol. 32, N. 5, pp. 4036–4047, May 2017, DOI: 10.1109/TPEL.2016.2587756.
- [J86] Tomoharu Nagashima, Xiuqin Wei, Elisenda Bou, Eduard Alarcon, Marian K. Kazimierczuk, and Hiroo Sekiya "Steady-state analysis of isolated class-E2 converter outside nominal operation" *IEEE Transactions on Industrial Electronics*, vol. 64, no. 4, pp. 3227–3238, Apr 2017.
- [J87] Mohsen Hayati, Sobhan Roshani, Marian K. Kazimierczuk, and Hiroo Sekiya "A class E power amplifier design considering MOSFET nonlinear drain-to-source and nonlinear gate-to-drain capacitances at any grading coefficient" *IEEE Transactions on Power Electronics*, vol. 31, no. 11, pp. 7770–7779, Nov 2016.
- [J88] Yuxin Liu, Anfeng Liu, Yanling Hu, Zhetao Li, Young-June Choi, Hiroo Sekiya, and Jie Li "FFSC: An energy efficiency communications approach for delay minimizing in internet of things" *IEEE Access*, vol. 4, pp. 3775–3793, July 2016.
- [J89] Mohsen Hayati, Sobhan Roshani, Marian Kazimierczuk, and Hiroo Sekiya "Analysis and design of class E power amplifier considering MOSFET parasitic input and output capacitances" *IET Circuits, Devices & Systems*, vol. 10, pp. 433–440, Apr 2016.
- [J90] F. Stellino, A. Mazzoni, M. Storace, "A phase analysis method for burst onset prediction," *Physical Review E*, vol. 95, N. 022412, pp. 1–13, 2017, DOI: 10.1103/PhysRevE.95.022412.
- [J91] S. Haeri and Lj. Trajkovic, "Virtual network embedding via Monte-Carlo tree search," *IEEE Transactions on Cybernetics*, to appear. DOI: 10.1109/TCYB.2016.2645123.
- [J92] L. P. Wang, Yaoli Wang, Qing Chang, "Feature selection methods for big data bioinformatics: A survey from the search perspective," *Methods*, vol. 111, pp. 21–31, 2016.
- [J93] Xiaolong Bai, Swamidoss Issac Niwas, Weisi Lin, Bing-Feng Ju, Chee Keong Kwoh, L. P. Wang, Chelvin C. Sng, Maria C. Aquino, Paul T. K. Chew, "Learning ECOC code matrix for multiclass classification with application to glaucoma diagnosis", *Journal of Medical Systems*, vol. 40, pp. 1–10, 2016.
- [J94] Z. Lan, O. Sourina, L. P. Wang, Y. Liu, "Real-time EEG-based Emotion Monitoring Using Stable Features," *Visual Computer*, vol. 32, pp. 347–358, 2016.

Among the publications above, some have been marked by their respective authors for being particularly notable or relevant to the Technical Committee focus area. Specifically:

- [J14] presents the first charge trapping control in a MOS structure;

- [J24] presents a payload for a CubeSAT mission to be launched later this year. The TC member Manuel Domínguez-Pumar is the Principal Investigator of this payload, which uses a Pulsed Digital Oscillator to measure in real-time the etching of a polymer by atomix oxygen in a Low Earth Orbit;
- [J25] presents the first ever Surface Potential active control in a gas sensor made of Metal Oxide Nanowires. This control allows to accelerate the time response of MOX gas sensors;
- [J84] presents two circuit architectures for the estimation of the solar irradiance based on simple measurements are proposed. They are thought to be part of a centralized system implemented on field programmable gate array (FPGA) for sensing and monitoring of solar irradiance in a whole PV plant;
- [J85] presents a switched model predictive control strategy that is applied for the speed regulation of a powertrain system composed of an electrical motor connected to a rotating load through an elastic shaft and a gear, which introduces backlash. The system is described through a piecewise-affine model and a different control law is designed for each system dynamics, which allows obtaining very simple controllers, suitable for digital implementation in embedded systems;
- [J90] proposes a method describing (for neuron models) a mechanism of phase coding relating the burst onsets with the phase profile of the input current. This relation suggests that burst onset may provide a way for postsynaptic neurons to track the input phase. Moreover, we define a method of phase decoding to solve the inverse problem and estimate the likelihood of burst onset given the input state;

F.4 Book Chapters

- [BC1] E. Blokhina and D. Galayko “Oscillators for energy harvesting”, in E. Blokhina, A. El Aroudi, A. Alarcon and D. Galayko (eds.), ““Nonlinearity in Energy Harvesting Systems — Micro- and Nanoscale Applications,” Springer, 2016.
- [BC2] E. Blokhina, A. El Aroudi and D. Galayko “Transducers for energy harvesting”, in E. Blokhina, A. El Aroudi, A. Alarcon and D. Galayko (eds.), ““Nonlinearity in Energy Harvesting Systems — Micro- and Nanoscale Applications,” Springer, 2016.
- [BC3] M. Dominguez-Pumar, J. Pons-Nin, J.A. Chavez-Dominguez “MEMS Technologies for Energy Harvesting”, Chapter 2 in E. Blokhina, A. El Aroudi, A. Alarcon and D. Galayko (eds.) ““Nonlinearity in Energy Harvesting Systems — Micro- and Nanoscale Applications,” Springer 2016. DOI: 10.1007/978-3-319-20355-3_2.
- [BC4] Abdelali El Aroudi, Eduard Alarcon, Miquel López-Suárez, Riccardo Rurali and Gabriel Abadal, “Nonlinear Dynamics of Ambient Noise Driven Graphene Nanostructured Devices for Energy Harvesting,” in E. Blokhina, A. El Aroudi, A. Alarcon and D. Galayko (eds.), ““Nonlinearity in Energy Harvesting Systems — Micro- and Nanoscale Applications,” Springer, 2016.
- [BC5] M. Fouda, A. G. Radwan and A. S. Elwakil, “Memristor and Inverse Memristor: Modeling, Implementation and Experiments,” Chapter 15 in S. Vaidyanathan and C. Volos (eds.) “Advances in Memristors, Memristive Devices and Systems” Studies in Computational Intelligence Series, Springer Verlag, Germany, pp. 371–392, 2017.
- [BC6] A. G. Radwan, B. J. Maundy and A. S. Elwakil, “Fractional-order oscillators,” Chapter 3 in Yoshifumi Nishio (ed.) “Oscillator Circuits, Frontiers in Design, Analysis and Applications,” pp. 25–49, IET, Dec. 2016.

- [BC7] Yoko Uwate and Yoshifumi Nishio, “Coupled Oscillator Networks with Frustration”, in Yoshifumi Nishio (Ed.) “Oscillator Circuits; Frontiers in Design, Analysis and Applications,” pp. 163–181 IET, 2016.
- [BC8] Hiroo Sekiya “Fundamental operation and design of high-frequency high-efficiency tuned power oscillator,” Chapter 11 in Yoshifumi Nishio (Ed.) “Oscillator Circuits: Frontiers in Design, Analysis and Applications“, IET, 2016.

F.5 Extended Follow up of Conference proceedings published in volume

- [FU1] Z. Galias, “Are numerical studies of long term dynamics conclusive: the case of the Hénon map”. In Journal of Physics: Conference Series, volume 692, page 012001. 2016.

F.6 Selected Conference Papers

- [C1] E. Blokhina and D. Galayko “Towards Autonomous Microscale Systems: Progress in Electrostatic Kinetic Energy Harvesting”, In proc. of IEEE Int. Conf. on Electronics, Circuits and Systems 2016, 11–14 December 2016, Monte-Carlo, Monaco.
- [C2] E. Koskin, E. Blokhina, C. Shan, E. Zianbetov, O. Feely and D. Galayko “Discrete-time modelling and experimental validation of an All-Digital PLL for clock-generating networks”, In proc. of IEEE International New Conference on Circuits and Systems (NEWCAS) 2016, June 26–29, Vancouver, Canada.
- [C3] S. Callegari, “True random number generators as configware for mixed mode programmable systems on chip,” 2016 IEEE International Symposium on Circuits and Systems (ISCAS), Montreal, QC, 2016, pp. 1850–1853. DOI: 10.1109/ISCAS.2016.7538931.
- [C4] F. Bizzarri, A. Brambilla, A. Colombo, and S. Callegari. “Constant-Time Discontinuity Map for Forward Sensitivity Analysis to Initial Conditions: Spurs Detection in Fractional-N PLL as a Case Study.” In International Symposium on Circuits and Systems. 2017.
- [C5] K. Y. Fok, C. T. Cheng, C. K. Tse and N. Ganganath, “A Relaxation Scheme for TSP-Based 3D Printing Path Optimizer,” 2016 International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC), Chengdu, 2016, pp. 382–385. DOI: 10.1109/CyberC.2016.80>.
- [C6] N. Ganganath, C. T. Cheng and C. K. Tse, “Rapidly Replanning A*,” 2016 International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC), Chengdu, 2016, pp. 386–389. DOI: 10.1109/CyberC.2016.81.
- [C7] J. V. Wang, C. T. Cheng and C. K. Tse, “Effects of Correlation-Based VM Allocation Criteria to Cloud Data Centers,” 2016 International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC), Chengdu, 2016, pp. 398–401. DOI: 10.1109/CyberC.2016.83.
- [C8] J. V. Wang, K. Y. Fok, C. T. Cheng and C. K. Tse, “A Stable Matching-Based Virtual Machine Allocation Mechanism for Cloud Data Centers,” 2016 IEEE World Congress on Services (SERVICES), San Francisco, CA, 2016, pp. 103–106. DOI: 10.1109/SERVICES.2016.21.
- [C9] N. Ganganath, C. T. Cheng and C. K. Tse, “Multiobjective path planning on uneven terrains based on NAMOA*,” 2016 IEEE International Symposium on Circuits and Systems (ISCAS), Montreal, QC, 2016, pp. 1846–1849. DOI: 10.1109/ISCAS.2016.7538930.

- [C10] K. Y. Fok, N. Ganganath, C. T. Cheng and C. K. Tse, "A 3D printing path optimizer based on Christofides algorithm," 2016 IEEE International Conference on Consumer Electronics-Taiwan (ICCE-TW), Nantou, 2016, pp. 1–2. DOI: 10.1109/ICCE-TW.2016.7520990.
- [C11] K. Mandal, A. Abusorrah, M. Al Hindawi, Y. Al Turki, A. El Aroudi, D. Giaouris and S. Banerjee, "Control-oriented design guidelines to avoid instabilities in power electronic systems", IEEE International Symposium on Circuits and Systems 2017, Baltimore, USA.
- [C12] A. El Aroudi, K. Mandal, A. Abusorrah, M. Al Hindawi, Y. Al Turki, D. Giaouris and S. Banerjee, "A Novel Nonlinear Modulation Technique for Stabilizing DC-DC Switching Converters", IEEE International Symposium on Circuits and Systems 2017, Baltimore, USA.
- [C13] B. Areli Martinez Tribiño, A. El Aroudi and L. Martinez, "Sliding Mode approach for start up and voltage regulation of a Boost converter driving a constant power load", IEEE International Symposium on Circuits and Systems 2017, Baltimore, USA.
- [C14] L. Benadero, E. Ponce, A. El Aroudi and L. Martinez Salamero, "Analysis of coexisting solutions and control of their bifurcations in a parallel LC resonant inverter", IEEE International Symposium on Circuits and Systems 2017, Baltimore, USA.
- [C15] L. Benadero, E. Ponce, A. El Aroudi and L. Martinez Salamero, "Analysis of Nonlinear and Non-smooth Dynamics of a Self-Oscillating Series Resonant Inverter," MEDYNA 2017, Sevilla, Spain, 2017.
- [C16] E. Ponce, L. Benadero, A. El Aroudi, "Sliding Bifurcations in Resonant Inverters, Signal, Systems and Devices," Marrakech, Morocco, 2017.
- [C17] A. El Aroudi, B. Areli Martinez Tribiño, J. Calvente, A. Cid Pastor and L. Martinez Salamero, "Sliding-Mode Control of a Boost Converter Feeding a Buck Converter Operating as a Constant Power Load," International Conference on Green Energy Conversion Systems, Hammamet, Tunisia, 2017.
- [C18] A. El Aroudi, M. Bodetto, A. Cid-Pastor, M. Al-Numay, "Power Quality Issues in Single-Stage AC-DC HBLED Drivers at Low Power Levels: Problems and Solutions," International Conference on Green Energy Conversion Systems, Hammamet, Tunisia, 2017.
- [C19] B. J. Maundy, T. J. Freeborn, A. S. Elwakil and A. Allagui, "Determination of supercapacitor metrics using a magnitude-only method," Proc. IEEE Symposium on Circuits & Systems ISCAS'16, pp. 1186–1189, Montreal, Canada, May, 2016.
- [C20] G. Tsirimokou, C. Psychalinos and A. S. Elwakil, "Switched-Current Fractional-Order Filter Designs," Proc. IEEE Symposium on Circuits & Systems ISCAS'16, pp. 682–685, Montreal, Canada, May 2016.
- [C21] A. Jarndal and A. S. Elwakil, "Fractional-order model of GaN high electron mobility transistors for switching applications," Int. Conf. on Microelectronics, Nanoelectronics and Photonics (ICMNP 2016), Stockholm, Sweden, vol. 10, pp. 788–792, July 2016.
- [C22] T. J. Freeborn, A. S. Elwakil and B. J. Maundy, "Factors impacting accurate Cole-impedance extractions from magnitude-only measurements," IEEE Int. Conf. on Syst., Man, and Cybernetics, pp. 223–227, Budapest, Hungary, Oct 2016.
- [C23] T. J. Freeborn, A. S. Elwakil and B. J. Maundy, "Electrode location impact on Cole-impedance parameters using magnitude-only measurements," IEEE 59th Int. Midwest Symposium on Circuits and Systems (MWCAS), Abu Dhabi, pp. 21–24, Oct 2016.

- [C24] A. Abo Bakr, A. G. Radwan, A. Madian and A. S. Elwakil, "Aging effect on apples bio-impedance using AD5933," 3rd IEEE Int. Conf. on Advances in Computational Tools for Engineering Applications (ACTEA), Beirut, Lebanon, pp. 188–161, July 2016.
- [C25] I. Dimeas, G. Tsimokou, C. Psychalinos and A. S. Elwakil, "Experimental verification of filters using fractional-order capacitor and inductor emulators," Int. Conf. on Telecommunications and Signal Processing TSP2016, Vienna, pp. 559–562, June 2016.
- [C26] A. M. Abdelaty, A. G. Radwan, A. S. Elwakil and C. Psychalinos, "A Fractional-order dynamic PV model," Int. Conf. on Telecommunications and Signal Processing TSP2016, Vienna, pp. 607–610, June 2016.
- [C27] T. J. Freeborn, A. S. Elwakil and C. Psychalinos, "Analysis of a rectifier circuit realized with a fractional-order capacitor," 28th Int. Conf. on Microelectronics (ICM-2016), pp. 33–36, Cairo, Egypt, Dec 2016.
- [C28] B. J. Maundy, A. S. Elwakil, T. J. Freeborn and A. Allagui "Improved method to determine super-capacitor metrics from high-pass filter response," 28th Int. Conf. on Microelectronics (ICM-2016), pp. 25–28, Cairo, Egypt, Dec. 2016.
- [C29] A. Al-Ali, A. S. Elwakil, A. Ahmad and B. J. Maundy, "Design of a portable low-cost impedance analyzer," 10th Joint Int. Conf. on Biomedical Engineering Systems and Technologies (BIOSTEC 2017) and Biomedical Electronics and Devices (BIODEVICES-2017), Porto, Portugal, vol. 1, pp. 104–109, Feb 2017.
- [C30] T. J. Freeborn and A. S. Elwakil, "Variability of supercapacitor fractional order parameters extracted from discharging behavior using least squares optimization," Proc. IEEE Symposium on Circuits & Systems ISCAS'17, Baltimore, USA, May 2017 (accepted).
- [C31] N. Udayanga, A. Madanayake, C. Wijenayake, P. Ahmadi, L. Belostotski, L. Bruton and A. S. Elwakil, "All-pass filter synthesis of multifunctional microwave active circuits," 85th IEEE Vehicular Technology Conf. (VTC2017-Spring), Sydney, Australia, June 2017 (accepted).
- [C32] Z. Galias, "On the existence of chaos in the Chua's circuit with a smooth nonlinearity," In Proc. IEEE Int. Symp. Circuits Syst. (ISCAS), pp. 1106–1109, Montreal, May 2016.
- [C33] Z. Galias and S. Moskwa, "On the modeling of blackouts in power networks," In Proc. IEEE Int. Symp. Circuits Syst. (ISCAS), pp. 890–893, Montreal, May 2016.
- [C34] S. Moskwa, S. Koziel, and Z. Galias, "Minimization of power supply-interruption-related costs in power distribution grids using evolutionary methods," In Proc. Int. Conf. Signals Electronic Syst. (ICSES), pp. 153–156, Kraków, 2016.
- [C35] Z. Galias, "Topological chaos in the parallel inductor-capacitor-memristor circuit," In Proc. Int. Conf. Signals Electronic Syst. (ICSES), pp 139–142, Kraków, 2016.
- [C36] B. Garda, M. Ogorzałek, K. Kasinski, and Z. Galias, "Studies of dynamics of memristor-based memory cells," IEEE 8th Latin American Symposium on Circuits & Systems (LASCAS), Bariloche, February, 2017.
- [C37] F. C. M. Lau, Fanlu Mo, Wai M. Tam and Chiu-Wing Sham, "Random-Permutation-Matrix-Based Cyclically-Coupled LDPC Codes," Proceedings, International Conference on Advanced Communication Technology (ICACT 2017), Feb 2017, Pyeongchang, Korea.
- [C38] Ting-wai Siu, Chiu-Wing Sham and F. C. M. Lau, "Operating Frequency Improvement on FPGA Implementation of a Pipeline Large-FFT Processor," Proceedings, International Conference on Advanced Communication Technology (ICACT 2017), Feb 2017, Pyeongchang, Korea.

- [C39] F. C. M. Lau, F. Mo, Q. Lu, W. M. Tam, and C. W. Sham, "Novel Types of Cyclically-Coupled Quasi-Cyclic LDPC Block Codes," Proceedings, 2015 International Conference on Advanced Technologies for Communications (ATC 2016), Oct 2016, Hanoi, Vietnam.
- [C40] Xingtang Wu, Chi K. Tse, Hairong Dong, Ivan W. H. Ho and F. C. M. Lau, "A Network Analysis of World's Metro Systems," Proceedings, International Symposium on Nonlinear Theory and Applications (NOLTA'2016), Nov 2016, Yugawara, Japan.
- [C41] Yuli Zhao, F. C. M. Lau, Zhiliang Zhu and Hai Yu, "Robust Scale-free Luby Transform Code and Its Performance," Proceedings, International Symposium on Nonlinear Theory and Applications (NOLTA'2016), Nov 2016, Yugawara, Japan.
- [C42] Q. Lu, C. W. Sham and F. C. M. Lau, "On Using the Cyclically-Coupled QC-LDPC Codes in Future SSDs", Proceedings of IEEE Asia Pacific Conference on Circuits and Systems, Oct 2016, Jeju Island, Korea.
- [C43] Charlotte Yuk-Fan Ho and Bingo Wing-Kuen Ling, "Design of multi-layer perceptrons via joint filled function and genetic algorithm approach for video forensics," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C44] Ziyin Huang, Jialiang Gu and Wing-Kuen Ling, "De-Hankelization of singular spectrum analysis matrices via an optimization approach for blood glucose estimation," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C45] Bai-Wei Deng, Zi-Tong Yu, Bingo Wing-Kuen Ling and Zhijing Yang, "Video quality assessment based on features for semantic task and human material perceptron," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C46] Wei Xi Li, Tu Hong Zheng, Yu Wei Liu and Bingo Wing-Kuen Ling, "Implementable blood glucose estimation with fractional-order system," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C47] Tuhong Zheng, Weixi Li, Yuwei Liu and Bingo Wing-Kuen Ling, "A noninvasive blood glucose measurement system by arduino and near-infrared," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C48] Peiru Lin, Weichao Kuang, Chuqi Yang and Bingo Wing-Kuen Ling, "Grouping singular spectrum analysis components via mixed integer quadratic programming," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C49] Yuwei Liu, Weixi Li, Tuhong Zheng and Bingo Wing-Kuen Ling, "Overviews the methods of non-invasive blood glucose measurement," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C50] Hong Ying Wang and Bingo Wing-Kuen Ling, "Robotic grasp detection using deep learning and geometry model of soft hand," International Conference on Consumer Electronics, ICCE-China, Dec 2016. (Guangzhou).
- [C51] Shuang Li, Nili Tian, Xiao-Zhi Zhang, Qing Miao, Weichao Kuang and Wing-Kuen Ling, "Chaotic filter bank based computer cryptography for cloud and wireless systems," The 42nd Annual Conference of IEEE Industrial Electronics Society, IECON, Oct 2016. (Florence).
- [C52] Yu-Fan Zeng, Wing-Kuen Ling, Yuping Gui, Zhijing Yang and Qingyun Dai, "Stabilization of single bit high order interpolative sigma delta modulators for analog-to-digital conversion in wireless mobile handset based electromyogram acquisition system," International Conference on Industrial Informatics, INDIN, July 2016. (Futuroscope-Poitiers).

- [C53] Yu-Fan Zeng, Wing-Kuen Ling, Qing Liu, Meilin Wang and Jiangzhong Cao, "QRS complex detection based wearable electrocardiogram acquisition system via computing regularity without evaluating the modulus maxima," International Conference on Industrial Informatics, INDIN, July 2016. (Futuroscope-Poitiers).
- [C54] Chuqi Yang, Jun Xiao, Yufeng Zeng, Baiwei Deng and Wing-Kuen Ling, "Design of periodic window functions in filter window filter banks for harsh environment," International Conference on Industrial Informatics, INDIN, July 2016. (Futuroscope-Poitiers).
- [C55] Pei-Ru Lin, Weixi Li, Tuhong Zheng, Wing-Kuen Ling Chi-Kong Li, "Information extraction via singular spectrum analysis for noninvasive blood glucose estimation system inspired by empirical mode decomposition," International Conference on Industrial Informatics, INDIN, July 2016. (Futuroscope-Poitiers).
- [C56] Xin Wu, Yuwei Liu, Jing Su, Ya Li, Wing-Kuen Ling and Chi-Kong Li, "Optimal design of both rectified layer and pooling layer of convolutional neural network for noninvasive blood glucose estimation system," International Conference on Industrial Informatics, INDIN, July 2016. (Futuroscope-Poitiers).
- [C57] Qing Liu, Xiao-Zhi Zhang, Wing-Kuen Ling, Meilin Wang and Qingyun Dai, "Exact perfect reconstruction of filter window bank with application to incompatible nonuniform filter banks," IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing, CSNDSP, July 2016. (Prague).
- [C58] Yu-Fan Zeng, Jing Su, Wing-Kuen Ling, Yuping Gui and Qingyun Dai, "Big data and cloud based wearable forgery note recognition systems via Contourlet transform and support vector machine," International Symposium on Industrial Electronics, ISIE, June 2016. (Santa Clara).
- [C59] Jing Su, Qing Liu, Meilin Wang, Jiangzhong Cao and Wing-Kuen Ling, "Design of convolution neural network with frequency selectivity for wearable camera embed glasses based image recognition systems via nonconvex functional inequality constrained sparse optimization approach," International Symposium on Industrial Electronics, ISIE, June 2016. (Santa Clara).
- [C60] Stefan Mozar, Erick van Voorthuysen and Bingo Wing-Kuen Ling, "Preventing potential fires and hazardous situations in consumer products," IEEE Symposium on Product Compliance Engineering, ISPCE, May 2016. (Anaheim).
- [C61] Jun Xiao, Wing-Kuen Ling, Yuping Gui and Kim-Fung Tsang, "Empirical relationships between artificial noises and audio performances of wireless industrial audio systems with dithers," International Conference on Industrial Technology, ICIT, Mar 2016. (Taipei).
- [C62] Kaipeng Li, Ya Li, Bingo Wing-Kuen Ling, Qingun Dai and Shengli Xie, "A wireless wearable fetal electrocardiographic sensing system," International Conference on Industrial Technology, ICIT, Mar 2016. (Taipei).
- [C63] Xiao-Zhi Zhang, Ya Li, Wing-Kuen Ling and Chi-Kong Li, "Parameter estimation of fractional Volterra series via nonconvex optimization approach for wireless non-invasive blood glucose measurement system," International Conference on Industrial Technology, ICIT, Mar 2016. (Taipei).
- [C64] X. Z. Zhang, J. Xiao, B. W. K. Ling, C. K. Li and K. F. Tsang, "Accurate, wearable, wireless and pinless blood glucose measurement system modelled by a set of fractional differential equations," International Conference on Consumer Electronics, ICCE, Jan 2016. (Las Vegas).

- [C65] Takahiro Chikazawa, Yoko Uwate and Yoshifumi Nishio “Chaos Propagation in Coupled Chaotic Circuits with Multi-Ring Combination” Proceedings of IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’16), pp. 65–68, Oct 2016.
- [C66] Kosuke Oi, Yoko Uwate and Yoshifumi Nishio “Synchronization in Complex Networks by Coupled Parametrically Excited Oscillators with Parameter Mismatch” Proceedings of IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’16), pp. 69–72, Oct 2016.
- [C67] Masaki Takeuchi, Haruna Matsushita, Yoko Uwate and Yoshifumi Nishio “Firefly Algorithm Existing Leader Fireflies” Proceedings of IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’16), pp. 303–306, Oct 2016.
- [C68] Seiya Kita, Yoko Uwate and Yoshifumi Nishio “Switching Synchronization States of a Ring of Coupled Chaotic Circuits with One-Direction Delay Effects” Proceedings of IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’16), pp. 384–387, Oct 2016.
- [C69] Minh Hai Tran, Kosuke Oi, Yoko Uwate and Yoshifumi Nishio “Synchronization Phenomena in Star-Coupled van der Pol Oscillators by Adding Different Frequency Oscillators” Proceedings of IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’16), pp. 629–632, Oct 2016.
- [C70] Chihiro Ikuta, Yoko Uwate and Yoshifumi Nishio “Multilayer Perceptron Including Different Amplitude Random Noise” Proceedings of International Symposium on Nonlinear Theory and its Applications (NOLTA’16), pp. 44–47, Nov 2016.
- [C71] Ryoji Fukumasa, Masayuki Yamauchi and Yoshifumi Nishio “Investigation of Attracting Force to Synchronization States on Coupled Oscillator System by Using Electric Power” Proceedings of International Symposium on Nonlinear Theory and its Applications (NOLTA’16), pp. 385–388, Nov 2016.
- [C72] Masaki Takeuchi, Haruna Matsushita, Yoko Uwate and Yoshifumi Nishio “Hybrid Method of Genetic Algorithm and Firefly Algorithm Distinguishing Between Males and Females” Proceedings of International Symposium on Nonlinear Theory and its Applications (NOLTA’16), pp. 542–545, Nov 2016.
- [C73] Yoko Uwate, Yoshifumi Nishio and Ruedi Stoop “Synchronization in Dynamical Polygonal Oscillatory Networks with Switching Topology” Proceedings of International Symposium on Nonlinear Theory and its Applications (NOLTA’16), pp. 578–581, Nov 2016.
- [C74] A. Oliveri, F. Stellino, M. Parodi, M. Storaice, “A Circuit Model for Open-Loop Compensation of Hysteresis,” in Proceedings of the 2016 IEEE International Symposium on Circuits and Systems (ISCAS’2016), Montreal, Canada, May 2016, pp. 2066–2069, DOI: 10.1109/ISCAS.2016.7538985.
- [C75] M. Lodi, A. Oliveri, M. Storaice, “Low-cost acquisition method for on-line inductor characterization in switched power converters”, in Proceedings of the 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD 2017), Giardini Naxos — Taormina, Italy, Jun 2017.
- [C76] G. Di Capua, N. Femia, K. Stoyka, M. Lodi, A. Oliveri, M. Storaice, “Ferrite Inductor Models for Switch-Mode Power Supplies Analysis and Design,” in Proceedings of the 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD’2017), Giardini Naxos — Taormina, Italy, Jun 2017.

- [C77] Shohei Sugino, Kazuhiro Okabe, Nobuyoshi Komuro, and Hiroo Sekiya “Power-flow simulation with visualization function based on IEEE common data format.” 2016 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS’2016), Oct 2016.
- [C78] Takumi Noda, Tomoharu Nagashima, Xiuqin Wei, and Hiroo Sekiya “Design procedure for wireless power transfer system with inductive coupling-coil optimizations using PSO,” 2016 IEEE International Symposium on Circuits and Systems (ISCAS’2016), pp. 646–649, May 2016.
- [C79] Dalvir K. Saini, Agasthya Ayachit, Marian K. Kazimierczuk, and Hiroo Sekiya “Small-signal analysis of closed-loop PWM boost converter in CCM with complex impedance load,” 2016 IEEE International Symposium on Circuits and Systems (ISCAS’2016), pp. 433–436, May 2016.
- [C80] M. Lodi, A. Shilnikov, M. Storaice, “CEPAGE: a toolbox for Central Pattern Generator analysis,” in Proceedings of the 2017 IEEE International Symposium on Circuits and Systems (ISCAS’2017), Baltimore, MD, USA, May 2017.
- [C81] Q. Ding, Z. Li, P. Batta, and Lj. Trajkovic, “Detecting BGP anomalies using machine learning techniques,” in Proc. IEEE International Conference on Systems, Man, and Cybernetics (SMC 2016), Budapest, Hungary, Oct 2016, pp. 3352–3355.
- [C82] S. Haeri and Lj. Trajkovic, “VNE-Sim: a virtual network embedding simulator,” in Proc. SIMUTOOLS, Prague, Czech Republic, Aug 2016, pp. 112–117.
- [C83] S. Haeri, Q. Ding, Z. Li, and Lj. Trajkovic, “Global resource capacity algorithm with path splitting for virtual network embedding,” in Proc. IEEE Int. Symp. Circuits and Systems, Montreal, Canada, May 2016, pp. 666–669.
- [C84] S. Haeri and Lj. Trajkovic, “Virtual network embeddings in data center networks,” in Proc. IEEE Int. Symp. Circuits and Systems, Montreal, Canada, May 2016, pp. 874–877.
- [C85] G. Chang, M. Arianezhad, and Lj. Trajkovic, “Using resource public key infrastructure for secure border gateway protocol,” in Proc. The 29th Annual IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2016), Vancouver, Canada, May 2016, pp. 381–386.
- [C86] M. Cosovic, S. Obradovic, and Lj. Trajkovic, “Classifying anomalous events in BGP datasets,” in Proc. The 29th Annual IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2016), Vancouver, Canada, May 2016, pp. 697–700.
- [C87] Krystian Lapa, Krzysztof Cpalka, L. P. Wang, “A method for nonlinear fuzzy modelling using population based algorithm with flexibly selectable operators,” 16th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2017), Zakopane, POLAND, Lecture Notes in Computer Science, 2017.
- [C88] Yauhen Arnatovich, Minh Ngoc Ngo, Tan Hee Beng Kuan, Charlie Soh, and L. P. Wang, “Achieving High Code Coverage in Android UI Testing via Automated Widget Exercising,” 23rd Asia-Pacific Software Engineering Conference (APSEC) 2016, Dec 2016, Hamilton, New Zealand, Regular Paper.
- [C89] L. P. Wang, Fung Foong Chan, Yaoli Wang, and Qing Chang, “Predicting Public Housing Prices Using Delayed Neural Networks,” TENCON 2016, IEEE Region 10 Conference, Singapore, Nov 2016.
- [C90] Z. Lan, G. R. Müller-Putz, L. P. Wang, Y. Liu, O. Sourina, R. Scherer, “Using Support Vector Regression to Estimate Valence Level from EEG,” IEEE International Conference on System, Man, Cybernetics, 2016.

- [C91] W. T. Lim, Lipo Wang, Yaoli Wang, and Qing Chang, “Housing price prediction using neural networks,” 2016 12th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery, ICNC-FSKD 2016, pp. 518–522. Changsha; China, Aug 2016.
- [C92] Wei Lun Lim, Gernot R. Müller-Putz, L. P. Wang, Yisi Liu, Olga Sourina, Reinhold Scherer, “Individual Alpha Peak Frequency Based Features for Subject Dependent EEG workload classification,” IEEE International Conference on System, Man, Cybernetics, 2016.
- [C93] Olga Sourina, Yisi Liu, Xiyuan Hou, Lim Wei Lun, Wolfgang Mueller-Wittig, L. P. Wang, Dimitrios Konovessis, Chun-Hsien Chen, Wei Tech Ang, “Neuroscience Based Design: Fundamentals and Applications,” Proceedings of 2016 International Conference on Cyberworlds (CW2016), China, 2016.
- [C94] P. Staszewski, P. Woldan, M. Korytkowski, R. Scherer, and L. P. Wang, “Query-by-example image retrieval in Microsoft SQL server,” 15th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2016), Zakopane, Poland, Jun 2016, Lecture Notes in Computer Science, vol. 9693, pp. 746–754, 2016.
- [C95] Andrzej Przybyl, Krystian Lapa, Jacek Szczypka, L. P. Wang, “The method of the evolutionary designing the elastic controller structure,” 15th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2016), Zakopane, Poland, Jun 2016, Lecture Notes in Computer Science, vol. 9692, pp. 476–492, 2016.
- [C96] Krystian Lapa, Krzysztof Cpalka, L. P. Wang, “New approach for interpretability of neuro-fuzzy systems with parametrized triangular norms,” 15th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2016), Zakopane, Poland, Jun 2016, Lecture Notes in Computer Science, vol. 9692, pp. 248–265, 2016.

Among the publications above, some entries have been marked by their respective authors as being particularly notable or relevant to the Technical Committee focus area. Specifically:

- [C46] received the Best Paper Award in Session and the Best Paper Award for the Conference;
- [C50] received the Best Paper Award in Session;
- [C51] received the Best Paper Award in Session;
- [C88] was presented at a conference characterized by a particularly selective review process and a very low acceptance ratio (19.7%).

G Patents

- [P1] Izzet Cem Goknar has been preparing a patent application on “A Universal 4-port Mutator”, to be filed in Turkey and then extended to Europe.

H Awards and Honors

1. Alessandro Colombo was co-recipient of the Best Young Author Journal Paper Award 2016 from the IEEE Control Systems Society — Italy Chapter

Paper: A. Colombo and D. Del Vecchio, “Least Restrictive Supervisors for Intersection Collision Avoidance: A Scheduling Approach,” IEEE Transactions on Automatic Control 2015, Volume: 60, Issue: 6

2. Wing-Kuen Ling was co-recipient of the *Best Paper Award in Session* at IECON 2016
3. Wing-Kuen Ling was co-recipient of the *Best Paper Award in Session* and the *Best Paper Award in Conference* at the ICCE-China 2016 Conference from the IEEE Consumer Electronics Society
4. Wing-Kuen Ling was co-recipient of the *Best Paper Award in Session* at the ICCE-China 2016 Conference from the IEEE Consumer Electronics Society
5. Ljiljana Trajkovic received an award in recognition of outstanding leadership and individual contributions to the success of the Vancouver Section as the IEEE Vancouver Section was awarded the 2017 Annual Recognition, Circuits and Systems Chapter as an Outstanding Small Technical Chapter.

I Other services in the IEEE

I.1 Participation in Governing Boards in IEEE

1. Ljiljana Trajkovic currently is a member of the IEEE Technical Activities Board, Nominations and Appointments Committee.
2. Ljiljana Trajkovic has been and currently is a member of the IEEE Technical Activities Board, Hall of Honor Selection Committee.
3. Ljiljana Trajkovic currently is a member of the IEEE Fellow Committee (2017)

I.2 Leadership of IEEE Societies

1. Ljiljana Trajkovic has been and currently is Junior Past President, IEEE Systems, Man, and Cybernetics Society

I.3 Participation in Governing Boards in CASS

1. Elena Blokhina has been and is serving in the Board of Governors of IEEE CASS.
2. Yoshifumi Nishio has been and is serving in the Board of Governors of IEEE CASS.

I.4 Leadership of local IEEE Chapters and Sections

1. Izzet Cem Goknar has been and currently is Chair of the IEEE CASS Turkey Chapter.
2. Yoshifumi Nishio has been and currently is Past Chair and Treasurer of the IEEE CASS Shikoku Chapter.
3. Yoshifumi Nishio has been and currently is Chapter Operation Chair of the IEEE CASS Shikoku Section.
4. Hiroo Sekiya has been and currently is Chair of the IEEE CASS Japan Joint Chapter.
5. Ljiljana Trajkovic has been and currently is Vice-Chair of the IEEE Control Systems Society Chapter of the Vancouver Section.
6. Ljiljana Trajkovic has been and currently is Vice-Chair of the IEEE Robotics and Automation Society Chapter of the Vancouver Section.
7. Ljiljana Trajkovic has been and currently is Vice-Chair of the IEEE Systems, Man, and Cybernetics Society Chapter of the Vancouver Section.

8. Ljiljana Trajkovic has been and currently is a mentor in the IEEE Simon Fraser University Student Branch.
9. Ljiljana Trajkovic has been and currently is Chair, IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections.
10. Tetsushi Ueta has been and currently is Chair of the IEEE CASS Shikoku Chapter.
11. Yoko Uwate has been and currently is “Women in CAS” and “Young Professional Program” Chair at the IEEE CASS Shikoku Chapter.

I.5 Participation in the Steering Committees of Scientific Conferences

1. Elena Blokhina has been and is in the Steering Committee of IEEE Conference on PhD Research in Microelectronics and Electronics (PRIME).
2. Elena Blokhina has been and is in the Steering Committee of IEEE NGCAS.
3. Izzet Cem Goknar has been and is in the Steering Committee of IEEE TSP.

I.6 Leadership of other TCs

1. Yoko Uwate has been and currently is Secretary and Web Administrator of the Neural Systems and Applications (NSA) TC in CASS.
2. Joos Vandewalle has been and currently is Chair of the Circuits and Systems Education and Outreach Technical Committee (CASEO) TC in CASS.
3. Mustak Yalcin has been and currently is Chair of the Cellular Nanoscale Networks and Array Computing (CNNAC) TC in CASS.

J Other professional service

1. Ljiljana Trajkovic is currently a member of the Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Projects Selection Panel, for the Information and Communications Technologies area.