

IEEE Circuits and Systems
Annual Report of the Power Systems and Power Electronic Circuits Technical Committee
<http://ewh.ieee.org/cmtc/cas-pspec>

2009 – 2010 Activities:

The Power Systems and Power Electronic Circuits Technical Committee (PSPEC-TC) met on June 1, 2010, during ISCAS'10, in Paris, France, with **34** members in attendance. The TC chair for the period 209 – 2010 was Juri Jatskevich. The scope and vision of our TC include:

- Advancements of circuit and systems theory, including modeling, computer-aided analysis and design related to power systems and power electronic circuits and their applications;
- Bring to the attention of the CAS Society the technical issues arising in those areas;
- Foster research, development, and dissemination of related knowledge;
- Engage and scientists and engineers, serve as a technical forum;
- Bridge between CAS Society and other IEEE societies, including the Power & Energy Society, the Power Electronics Society, the Industrial Electronics Society and the Control Systems Society.

It was mentioned at the meeting that the CAS Society leadership is presently working on formulating the vision of the society, and that each TC has to prepare its own vision statement which will contribute to the vision of the society. The TC Chair and Chair-Elect will be working on preparing a draft for the TC vision, which will then be circulated to the TC members, updated/edited and passed to CAS VP Technical Activities.

The TC activities include publishing papers in related journals and conferences. The members of our TC are participating in Editorial Boards of many related IEEE Transactions, organize and chair conference session, etc. The chair also mentioned that the Editor-in-Chiefs (EiC) of both TCAS-I and TCAS-II have changed, and that with accordance to the CAS bylaws each EiC appointed his own Editorial Board as he sees necessary to cover the scope of the journal and best serve the authors and the readership of his specific journal. The TC chair, Juri Jatskevich, had number of detailed discussions with Wouter Serdijn, Gianluca Setti, Vojin Oklobdzija, and Ljiljana Trajkovic, regarding our TC and TCAS journals. A mutual understanding has been reached and reassured that circuits and systems focused papers from power systems and/or power electronics side will continue to be within the scope of TCAS. The members of our TC have pointed out that power systems and power electronics papers with CAS focus are not presently considered by any other IEEE Transaction, and that it would be very important for perspective authors to know that such papers are within the scope of TCAS. The option of potentially extending the ISCAS papers and submitting the significantly enhanced/extended papers to the TCAS journals remains to be very important and attractive feature for many perspective authors and participants of ISCAS from our track. Similar arrangements exist in other sister societies, e.g. Power Electronics Society, Industrial Electronics Society, etc.

Relevant to activities of our TC for period from **July 1, 2009 to May 25, 2010**, the following information was presented:

- a. IEEE Transactions on Circuits and Systems (TCAS-I), Part I, Regular Papers:**
 - i.** Associate Editor, Dr. Henry Chung: 7 submitted; 2 accepted; 4 rejected or transferred to another journal; and 1 under review.
 - ii.** Associate Editor, Dr. Eduard Alarcón: 29 submitted; 8 accepted; 4 rejected or transferred to another journal; and 13 under review.
 - iii.** Associate Editor, Dr. Karen Miu: 7 submitted; 2 accepted; 4 rejected or transferred to another journal; and 1 under review.
 - iv.** Associate Editor, Dr. Michael Chi K. Tse: 13 submitted; 8 accepted; 3 rejected or transferred to another journal; and 2 under review.
 - v.** Associate Editor, Dr. Peter T.J. Liang: 10 submitted; 0 accepted; 7 rejected or transferred to another journal; and 3 under review.

- vi. Total: 52 submitted; 19 accepted; 20 rejected or transferred to another journal; and 19 under review.
- b. **IEEE Transactions on Circuits and Systems (TCAS-II), Part II, Briefs:**
 - i. Associate Editor, Dr. Chika Nwankpa: 12 submitted; 2 accepted; 5 rejected or transferred to another journal; and 5 under review.
 - ii. Associate Editor, Dr. Gabriel A. Rincón-Mora: 13 submitted; 7 accepted; 5 rejected or transferred to another journal; and 1 under review.
 - iii. Associate Editor, Dr. Henry Chung: 5 submitted; 0 accepted; 3 rejected or transferred to another journal; and 2 under review.
 - iv. Total: 30 submitted; 9 accepted; 13 rejected or transferred to another journal; and 7 under review.
- c. **Conferences: ISCAS 2010** (Track Co-Chairs: Juri Jatskevich / Tadashi Suetsugu)
 - i. **Regular Papers:** Total number of the submitted papers was 107 (initially 108, as one was transferred to Track 1, Analog SP), which is a record high for our Track over several years making our track 5th in size among a total of 17 Tracks in ISCAS. A total number of accepted papers was 50, which resulted in acceptance rate of 47% - which was the highest allowed rate for this year's ISCAS. This acceptance rate was decided by the ISCAS organizing committee and not negotiable for the individual Tracks. The 50 accepted regular papers were organized into 7 Lecture Sessions

Integrated Power Electronic Circuits Chair: Eduard Alarcon - Technical University of Catalunya; Gabriel Rincón-Mora - Georgia Institute of Technology;

Integrated & Wireless Power Circuits Chair: Marian Kazimierczuk - Wright State University; Gabriel Rincón-Mora - Georgia Institute of Technology;

Power Systems Modeling & Simulation Chair: Chika Nwankpa - Drexel University; Juri Jatskevich - University of British Columbia;

Control of Power Converter Circuits Chair: Juri Jatskevich - University of British Columbia; Eduard Alarcon - Technical University of Catalunya;

Switched Capacitor Converters & Power Amplifiers Chair: Adrian Ioinovici - Holon Institute of Technology; Marian Kazimierczuk - Wright State University;

Power Systems Tools & Analysis Chair: Ali Abur - Northeastern University; Juri Jatskevich - University of British Columbia;

AC & DC Converter Circuits Chair: Tsorng-Juu Peter Liang - National Cheng Kung University; Adrian Ioinovici - Holon Institute of Technology;

and 3 Poster Sessions.

Power Electronics I Chair: Marian Kazimierczuk - Wright State University; Tadashi Suetsugu - Fukuoka University;

Power Electronics II Chair: Tadashi Suetsugu - Fukuoka University; Tsorng-Juu Peter Liang - National Cheng Kung University;

Energy Systems Modeling & Analysis Chair: Bernard Lesieutre - University of Wisconsin-Madison; Chika Nwankpa - Drexel University;

These sessions took place during the Monday, Tuesday, and Wednesday regular and poster sessions of the conference. Generally, all sessions had very good attendance and discussions following the presentations.

- ii. **Special Sessions:** A total of 3 Special Sessions were proposed: 2 in power electronics and 1 in power systems. From these, only the following two were accepted:

- **Circuits & Systems For Renewable Energy Sources**, Chair: Doron Shmilovitz - Tel-Aviv University; Giovanni Petrone - Università degli Studi di Salerno;
 - **Stability Regions of Nonlinear Circuits & Systems: Recent Advances & Emerging Applications**, Chair: Hsiao-Dong Chiang - Cornell University; Luis Alberto - Universidade de São Paulo;
- iii. It was commented by the chair that for the future our TC members may need to look into better packaging the proposed special sessions such that each session is a stand-alone session rather than a continuation of the same session, e.g. part I and part II. In this way, there is a higher chance of the Special Session to be accepted, especially since the proposed papers are typically from known researchers and are of high quality. A question was raised that perhaps the number of accepted Special Sessions is related to the size of the sponsoring Track or TC? But the members of our TC who previously served on the Special Session Selection Committee could not support this information.
- iv. Overall, our TC and Track 11 had 60 papers in this ISCAS. This is an important measure since ISCAS organizers are presently looking into reducing the number of tracks (and sub-tracks) for the future conferences, and some very small tracks may be merged or disappear. It was mentioned at the meeting that the increased level of activities is generally attributed to the increased interest in the energy and power related circuits and systems, which can actually be observed presently in many IEEE Societies. The chair thanked all the present attendees for their participation and active involvement in CAS activities related to power systems and power electronics and for the good turn out in this ISCAS in Paris.

2) Proposed Activities for 2010/11 – Co-Chairs: Tsorng-Juu (Peter) Liang / Juri Jatskevich

a. ISCAS'11 - May 15 -18, 2011, Rio de Janeiro, Brazil. Juri Jatskevich announced ISCAS 2011 and its important dates:

Tutorial Proposals:	10	September 2010
Special Sessions Proposals:		10 September 2010
Notification of accept. of Special Sessions:		22 September 2010
Submission of Full 4-page Papers in Regular Sessions:		29 October 2010
Submission of Full 4-page Papers in Special Sessions:		29 October 2010
Notification of Paper Acceptance:	17	December 2010
Submission of FINAL Papers:		21 January 2011
Author Registration:	21	January 2011

It was emphasized by the chair that the next ISCAS is somewhat earlier, May 15, with all the deadlines shifted earlier as well. So, it is important to start thinking and planning ahead.

The TC members are encouraged to prepare papers for the future submission. With the lesson learned for this ISCAS, the TC members are very much encouraged to organize Special Sessions, assuming 5 papers per session under a unifying theme. As it was pointed out by many members, there is an increased interest to the energy circuits and systems from other TC, e.g. Analog SP, Nonlinear CAS, etc., and we should look into organizing Special Sessions jointly with other relevant TCs. Such jointly organized Special Sessions could facilitate bringing together researchers working in complementary areas of CAS and attracting larger audience within ISCAS. Several members have mentioned possible topics for the Special Sessions on load modeling and system identification. Tutorials related to energy circuits and systems will also be of particular interest to ISCAS considering the present attention to the energy and grid issues. The members are also encouraged to propose tutorials for the next ISCAS, which can also be done jointly with other TCs.

b. Distinguished Lecturer Program (DLP)

Eduard Alarcon has been the last DLP from our TC. He mentioned that we should look for more members and nominate them for the DLP, which gives good visibility to the speaker and to the

area. As it was emphasized at the Chair's meeting, the DLP nominees should be known researchers with established track and active current research based on which they can prepare lectures that would be of significant interest to larger audience.

c. Other CAS-sponsored conferences (if any)

Several members of our TC are also participating in other CAS-sponsored conferences listed below, but more detailed information was not available prior to completing this report.

ICECS 2010 Athens, Greece, December 12-15, 2010.

Submission of Regular Papers	July 1, 2010
Special session proposal due	July 5, 2010
Tutorials proposals due	July 15, 2010
Notification of Acceptance (by email)	September 20, 2010
Author Registration Deadline	October 10, 2010

APCCAS 2010 Kuala Lumpur, Malaysia December 6-9, 2010.

Submission of Tutorial Proposals:	20 June 2010
Submission of Special Sessions Proposals:	10 June 2010
Notification of acceptance of Tutorial:	30 June 2010
Notification of acceptance of SS:	15 June 2010
Submission of Full 4-page Papers in Regular Sessions:	30 June 2010
Submission of Full 4-page Papers in Special Sessions:	10 July 2010
Notification of Paper Acceptance:	15 August 2010
Submission of FINAL Papers:	10 September 2010
Author and Early-Bird Registration:	10 September 2010

3) Nomination of the Chair-Elect

The term of Juri Jatskevich as the Chair of the PSPEC TC ends with ISCAS 2010. Tsorng-Juu (Peter) Liang is the incoming Chair. His term runs through to the end of ISCAS'11. An election was held to determine the Chair-Elect for chair duties from ISCAS'11 to the end of ISCAS'12. PSPEC TC has a policy of alternating chairmanship between the power electronics and power system communities. Chika Nwankpa (Drexel University, USA) from power systems was the sole nomination and was duly elected.

4) The term of Hirotaka Koizumi as the Secretary also ends with the ISCAS 2010. Therefore, with accordance to the TC's bylaw, an election was held to determine the incoming Secretary for a 2-year term including ISCAS'11 and ISCAS'12. Doron Shmilovitz (Tel-Aviv Univ. Israel) was solely nominated. His nomination was seconded and carried out unanimously.

5) New Business (if any): Technical Committee Name Change

Present name: Power Systems and Power Electronic Circuits Technical Committee
Changing the name had been mentioned during the last meeting in ISCAS2009, as well as it was separately brought up by several members. There have been several proposals for the name change of our Technical Committee as to better reflect the scope of our TC and its role within the CAS Society as well as its vision. The terms "Energy", "Power" and "CAS" were considered representative key words during the discussion. The chair, Juri Jatskevich, decided that it would not be possible to fully discuss all alternatives and make the final selection during the actual ISCAS 2010 meeting due to the limited time and the scope of this issue. Instead, the chair suggested implementing an electronic voting process by which the members can rank the proposed names and systematically arrive at the new name. Electronic voting is permitted by the TC's bylaw

and it should give the members at least one month of time to cast their votes. The electronic poll (conducted through Condorcet Internet Voting Service) is presently active with the following suggested names:

- # Energy Circuits and Systems
- # Energy and Power Circuits and Systems
- # Power and Energy Circuits and Systems
- # Power Electronics and Energy Systems
- # Energy Systems and Conversion Circuits
- # Energy Conversion Circuits and Systems
- # Power Systems and Power Electronic Circuits (The original name)

The TC members are given until 31 July 2010 to cast their votes. The TC's officers would then notify the CASS officially upon getting the results.

Officers: Term Ending at ISCAS 2010:

Chair: Juri Jatskevich ([jurij\(at\)ece.ubc.ca](mailto:jurij@ece.ubc.ca))

Past Chair: Tadashi Suetsugu ([suetsugu\(at\)fukuoka-u.ac.jp](mailto:suetsugu@fukuoka-u.ac.jp))

Chair Elect: Tsorng-Juu (Peter) Liang ([tjliang\(at\)mail.ncku.edu.tw](mailto:tjliang@mail.ncku.edu.tw))

Secretary: Hirotaka Koizumi ([koizumi\(at\)ee.kagu.tus.ac.jp](mailto:koizumi@ee.kagu.tus.ac.jp))