

**Minutes of the
IEEE Power and Energy Circuits and Systems Technical Committee meeting
--- October 2020 ---**

Location:

Virtual (during ISCAS 2020)

Date:

Tuesday 13th October 2020

Time:

15:00-16:00 CET (UTC +1)

1) Introductions of Attendees

At 15:00, the Chair of the Committee, Tyrone Fernando, opened the annual virtual meeting of the PECAS TC and welcomed all participants. The Chair introduced himself, the Chair-Elect (Zhen Li, Daniel), and the Secretary (Giulia Di Capua). All the participants also briefly introduced themselves.

Memberships and new applications

Tyrone Fernando presented the list of new members who requested to join the PECAS TC during the last year. Their memberships were unanimously approved by mail surveys sent to all TC members.

Full members

- Suraj Prakash, Qualcomm Technologies, Inc. (Oct. 2019)
- Sijun Du, University of California at Berkeley (Oct. 2019)
- Dongsheng Yu, University of Mining and Technology (Nov. 2019)
- Jianping Guo, Sun Yat-sen University (Nov. 2019)
- Xi Zhang, State Grid Corporation of China (Jan. 2020)
- Junmin Jiang, Texas Instruments, Inc. (Feb. 2020)
- Xi Chen, GEIRI North America (Mar. 2020)
- Yang (Tim) Jiang, University of Macau (Apr. 2020)

Corresponding member

- Madhu Krishnan, A P J Abdul Kalam Tech. University (Nov. 2019)

Tyrone Fernando highlighted that the TC has no new membership requests since April 2020, and reminded how to become a PECAS-TC member. He invited all the participants to have a look to the relevant info available on PECAS website (<https://iee-cas.org/community/technical-committees/power-and-energy-circuits-and-systems-technical-committee-pecas>, Section → ***Becoming a Member***)

2) Approval of Agenda and Minutes from Last Meeting

Tyrone Fernando presented the meeting agenda. No comments or suggestions came from the attendees, and the agenda was unanimously approved.

The minutes from the last meeting held during ISCAS 2019 (Sapporo, Japan) were previously sent by email to all TC members. Tyrone Fernando invited all the attendees to have a look to the minutes available on PECAS website (<https://iee-cas.org/community/technical-committees/power-and-energy-circuits-and-systems-technical-committee-pecas>, Section → ***Reports and Minutes***)

Tyrone Fernando called to approve the minutes, which were unanimously approved.

3) Chair’s Report for Activities 2019/20

ISCAS 2020 report (Track Chairs: Abdelali El Aroudi, Tyrone Fernando, Zhen Li, and Giulia Di Capua)

Tyrone Fernando reported that 1641 papers were submitted to ISCAS 2020: 96 papers out of the 1641 were submitted to Track 4.0, putting it in the 6th position among the 19 total tracks of ISCAS 2020. Detailed numbers and papers distribution were presented on slides shown during the meeting.

Tyrone Fernando stated that 51 papers out of 96 were accepted for presentation, with an acceptance rate of about 53%. (42 rejected papers and 3 withdrawn papers). These papers were distributed in 8 sessions, including 5 lecture sessions (27 papers) and 3 poster sessions (24 posters).

In addition to the papers accepted for Track 4.0, there were two special sessions organized and/or contributed by the PECAS TC members, which were not counted in the total number of accepted papers. In particular, under the PECAS-TC endorsement, the following special sessions have been presented at ISCAS 2020:

- “*Modeling, Simulation, Testing & Design of Inductive Power Transfer Systems for Electric Vehicles*”, proposed, organized and co-chaired by Giulia Di Capua, with 9 papers presented in 2 lecture sessions (*part I, part II*);
- “*Security of Complex & Nonlinear Networked Systems: Analysis, Control & Optimization*”, proposed, organized and co-chaired by Yongxiang Xia, with 5 papers presented.

Tyrone Fernando thanked the 36 RCMs that served Track 4.0 supporting the review process. On average, the review process went well: each paper received 3.8 reviews, with a large number of high-quality papers with very good feedback from reviewers.

Regarding the review process, not all RCMs received the same number of papers and this reflected a non-uniform distribution of submissions across the 11 sub-tracks existing in Track 4.0. Each RCM received between 1 and 11 papers. It has been also highlighted that some past RCMs were not interested anymore in covering this role and a revision in the current list of RCMs is mandatory required.

Tyrone Fernando provided the following conclusions for the next ISCAS edition.

- a. The PECAS-TC has to invite new people to join as RCMs, and ask for their confirmation on the topics of interest, since in 2019/20 some past RCMs were not available, interested and/or not expert on the topics of the papers assigned them. A google form invitation has been sent to all members, to provide their availability and areas of interest.

On October 17th, the list of TC members who provided their availability and confirm to support for ISCAS 2021 was sent to the conference organizing committee. Here is the list (in alphabetical order):

- | | |
|-----------------------------|----------------------|
| – Aleksandra Lekic-Vervoort | – Jianping Guo |
| – Anmol Sharma | – Junmin Jiang |
| – Chi-Seng Lam | – Mummadi Veerachary |
| – Chi-Tsun (Ben) Cheng | – Sijun Du |
| – Elkim F. Roa Fuentes | – Tyrone Fernando |
| – Giulia Di Capua | – Xiaolu (Lucia) Li |
| – Hiroo Sekiya | – Yan Lu |
| – Hirotaka Koizumi | – Zhen Li |

Additional PECAS-TC members are welcome to cover such a role. In case of interest, contact the officers.

- b. Timely and compelling special sessions should be proposed for ISCAS 2021, and it is important to ask for the TC endorsement, to ensure a wider participation and keep trace of the activities carried on by members.

- c. Given past submissions on Track 4.0, two additional sub-tracks have been introduced for next ISCAS, on wireless power transfer applications and on switch-mode power supplies. Accordingly, the updated list of ISCAS sub-topics for Track 4.0:

- 4.1 - *Integrated Power Circuits and Charge Pumps*
- 4.2 - *DC-AC and AC-DC Converter Circuits*
- 4.3 - *Modeling, Dynamics and Control of Power Converters*
- 4.4 - *High Efficiency Converters and Drive Circuits for Specialized Applications*
- 4.5 - *Circuits & Systems for Energy Harvesting*
- 4.6 - *Circuits & Systems for Renewable Power Sources*
- 4.7 - *Circuits & Systems for Wireless Power Transfer applications*
- 4.8 - *Circuits & Systems for enhanced DC-DC switch-mode power supplies*
- 4.9 - *Computer-Aided Tools and Analysis of Power & Energy Systems*
- 4.10 - *Modeling, Dynamics and Control of Energy Grids and Systems*
- 4.11 - *Network Theory for Modern Smart Grids*
- 4.12 - *Power Management for Embedded Systems*
- 4.13 - *Other Areas in Power and Energy Circuits and Systems*

Summary of Activity of PECAS TC (June 2019-May 2020)

Tyrone Fernando highlighted that the TC members' activities between the June 2019 and May 2020 were summarized in the IEEE PECAS annual report, submitted to the IEEE CASS VP Technical Activities, Prof. YK Chen, on July 2020. He invited the attendees to have a look to the relevant document available on PECAS website (<https://iee-cas.org/community/technical-committees/power-and-energy-circuits-and-systems-technical-committee-pecas>, Section → **Reports and Minutes**)

A total number of 34 PECAS-TC members replied to the Annual Report, providing their contributions on the following technical activities: IEEE Conference/Event organizations; IEEE Journal Editorships; Awards, Honors, and Recognition; Keynote Speeches/Invited Talks; Other distinguished IEEE services.

As noticed by some members, the new form for the annual report was focused on CASS activities only. In the past, additional activities (including conference and journal publications) were included in this kind of reports, even if not totally CASS related. Nonetheless, the record of accomplishment from TC members' is significant, with a big editorial service participation, a large participation in IEEE CASS activities, and a good presence in the technical committees of international CASS conferences.

4) Membership and Review of PECAS TC

Summary of PECAS TC membership (August 2019-October 2020)

Giulia Di Capua presented the complex situation of memberships in August 2019. At that moment, the PECAS-TC nominally counted 132 members. However, as highlighted after multiple mail exchanges in the period from August 2019 to December 2019, many members were no more active. Some members retired in recent years, someone sadly passed away, someone changed affiliation and/or email, someone was not interested anymore and left IEEE and/or IEEE CASS, many members never replied to any kind of message sent from PECAS mailing list, etc.

In December 2019, the TC confirmed the membership for a total number of 69 people (Full Members).

In April 2020, after the some recent membership requests, the PECAS-TC counted 71 Full Members (FM) and 1 Corresponding Member (CM).

According to the PECAS-TC Bylaws, Giulia Di Capua reminded to all the attendees that a FM has the right to vote, propose motions and make statements at the annual meeting, whereas a CM may attend the TC annual

meeting with voice but without the right to vote. Moreover, the elevation of a CM to a FM is always allowed, and *vice versa*. To remain active, a FM has some duties to accomplish (e.g., attending the TC annual meeting; submitting a write-up for inclusion in the TC annual report; serving as a RCM or a Reviewer for papers related to the PECAS area submitted to ISCAS or CASS journals and conferences; serving on the editorial board of a CASS journal as expert in the PECAS area; *etc.*). Giulia Di Capua invited all the participants to have a look to Bylaws document available on PECAS website (<https://iee-cas.org/community/technical-committees/power-and-energy-circuits-and-systems-technical-committee-pecas>, Section → *Bylaws*)

In October 2020, IEEE and IEEE CASS memberships have been internally verified. In fact, IEEE and IEEE CASS memberships are both *mandatory requirements* for being a PECAS member. FMs who have not renewed IEEE/IEEE CASS memberships have been temporary included in the list of CMs, in order to let them revise/check their IEEE/IEEE CASS membership status. Accordingly, the PECAS-TC now counts 61 FMs and 11 CMs. The up-to-date PECAS membership lists are available on PECAS website (<https://iee-cas.org/community/technical-committees/power-and-energy-circuits-and-systems-technical-committee-pecas>, Sections → *Full Members & Corresponding Members*)

Giulia Di Capua informed by mail all members interested in such a change in their status, and invited them to revise/check their membership, at their best convenience. She also reminded that members could ask in any moment to be removed from PECAS-TC, or to be re-considered for inclusion within the TC. She eventually announced that in occasion of ISCAS 2021, IEEE and IEEE CASS memberships will be checked again, in order to keep up-to-date the TC list of participants.

Tyrone Fernando thanked Giulia Di Capua for the summary on PECAS membership status. Accordingly, he also proposed to vote an amendment for the inclusion of a written notice in the Bylaws, to yearly standardize the membership checks and the resulting elevation/leave of members within the TC.

Here is the text of the amendment to be voted:

“IEEE and IEEE CASS memberships will be yearly checked (e.g., in occasion of ISCAS conferences), in order to keep up-to-date TC list of participants. The procedure to be implemented includes the following steps:

- the TC, in the person of the Secretary and on behalf of the Chair, is required to send membership reminders to all PECAS members during months prior ISCAS;*
- on demand, PECAS members are required to provide updates on their membership status;*
- at the date of ISCAS, non-active Full Members and/or Full Members who have not yet renewed IEEE/IEEE CASS membership will become Corresponding Members for the rest of the year, thus avoiding their immediate leave from the TC;*
- at the date of ISCAS, Corresponding Members who have not renewed IEEE/IEEE CASS membership will leave the TC;*
- the TC is required to keep informed all members about any change in their current position.”*

Accordingly, every year non-active FMs, or FMs who have not renewed IEEE/IEEE CASS membership, become CMs, and CMs who have not renewed IEEE/IEEE CASS membership will leave the TC. Tyrone Fernando again highlighted that members can apply for re-inclusion within the TC in any moment, after their IEEE/IEEE CASS membership is properly checked/revisted.

Tyrone Fernando called to approve the amendment, which was unanimously approved. Accordingly, this text will be added to the current version of the PECAS-TC Bylaws.

IEEE CASS Review of PECAS TC (year 2020)

Giulia Di Capua reminded that the TC is currently under review. In fact, in 2012 the IEEE CASS established a formal process of periodic reviews of Technical Committees to ensure the ongoing health of the Society’s

technical community and the excellence of its technical activities. Each Technical Committee will undergo a formal review at least every 5 years. In 2020, the PECAS-TC is officially under formal review.

According to the Review Timetable provided by the IEEE CASS, Giulia Di Capua briefly presented the TC Review process, which comprises the following stages:

- | | |
|-----------------|--|
| ✓ 19 MAY 2020 | Review Questionnaire template emailed to TC Chairs (<i>done</i>) |
| ✓ 30 SEP 2020 | Final date for submission of the completed Review Questionnaire and other relevant information (<i>done</i>) |
| ✓ 5-16 OCT 2020 | TC Review period (<i>done</i>) |
| ☐ 31 OCT 2020 | TC Review Committee submits a recommendation report to TC Chair for comment |
| ☐ 31 DEC 2020 | TC Chair has two months to respond to the TC Review Committee's comments and recommendations, and return the report with any requested revisions |
| ☐ 15 JAN 2021 | Final report, including the TC Review Committee's comments and TC responses, is submitted to the Executive Committee for ratification |

The relevant data required in the Review Questionnaire included the following information:

- TC Officers for last 5 Years;
- Scope of TC;
- Bylaws, Policies and Procedures;
- Cass Membership Engagement;
- Membership (*based on current and verified TC roster info*);
- Journal Activity/Accomplishments;
- Conferences and Workshops;
- Other Activity/Accomplishments;
- Notable Features of TC;
- Future Plans;
- Self-Assessment.

A first meeting with the CASS Vice President for Technical Activities, the PECAS Chair and Chair-Elect was held on October 7th, 2020. The preliminary feedback on PECAS-TC was positive. The TC Review Committee will submit a recommendation report to TC Chair for additional comments.

Preliminary suggestions after the meeting have been the following ones:

- to keep trace of the PECAS-TC growing, to establish the impact of TC in CAS society;
- to consider DL nomination within PECAS-TC.

On these premises, Giulia Di Capua eventually reminded to all the attendees that:

- the TC will monitor the memberships and take care of further statistics for future analytics;
- the CASS DL program is now open to nominations, and the PECAS-TC is invited to submit up to 3 nominations for DL program.

The outcome of the TC Review process will be provided in due time and shared to the all TC members.

5) Proposed Activities for 2020/21

The PECAS TC target is to raise/maintain the number of ISCAS submissions in PECAS area, raise/maintain the number of SS proposals on emerging topics related to PECAS, and increase the number of SIs on emerging topics related to PECAS in IEEE CASS Journals. The TC is associated with three CASS Journals, *i.e.*, IEEE Transactions on Circuits and Systems I: Regular Papers (TCAS-1), IEEE Transactions on Circuits and Systems Part II: Express Briefs (TCAS-2), and IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS).

Zhen Li invited all TC members to be active in the proposal of *Special Issues in CASS Journals*. He also took the opportunity to announce the coming proposal for a Special Issue on:

- “*Interacting Dynamics Revaluation and Reliability Enhancement on High Renewable Penetrated Power System*”, proposed by Dr. Zhen Li, Prof. Abdelali El Aroudi, Dr. Xiaozhe Wang and Prof. Innocent Kamwa, to be submitted to the IEEE Journal on Emerging and Selected Topics in Circuits and Systems on October 2020.

Zhen Li solicited all TC members to be active in proposing *Special Sessions (SS) in the frame of ISCAS 2021*, which will be held on May 2021, in Daegu, Korea. He also reminded about the endorsement request to be preliminary sent to the PECAS-TC officers.

On October 18th, the following ISCAS SS proposal was announced, asking for PECAS-TC endorsement:

- “*Power Solutions for Distributed IoT Devices*”, proposed by Dr. Junrui Liang and Dr. Sijun Du.

The SS was eventually approved by ISCAS 2021 Special Session Co-Chairs on October 27th.

Zhen Li eventually encouraged the active participation in the frame of *other CASS sponsored conferences*. On this regards, he announced two coming activities of interest for PECAS-TC members:

- “*Innovation Workshop on Smart Grid and Energy Conversion*”, to be held at Beijing Institute of Technology, November-December 2021 (contact person: Dr. Zhen Li);
- “*SMACD 2021 & PRIME 2021 IEEE conferences*” (IEEE CASS technically co-sponsored conferences), to be held in Erfurt, Germany, July 2021 (contact person: Dr. Giulia Di Capua).

6) New Business (if any)

Tyrone Fernando asked the attendees for any other business. No further communication came from the audience.

The 2019-21 officers of the IEEE PECAS TC (ending term: ISCAS 2021) were eventually confirmed as follows:

Past Chair: Abdelali El Aroudi, Universitat Rovira i Virgili, Tarragona, Spain

Chair: Tyrone Fernando, University of Western Australia, Perth, Australia

Chair-Elect: Zhen (Daniel) Li, Beijing Institute of Technology, Beijing, China

Secretary: Giulia Di Capua, University of Salerno, Fisciano, Salerno, Italy

Tyrone Fernando reminded that ISCAS 2021 represents officers’ term ending. Accordingly, Tyrone Fernando will be designed as PECAS-TC Past Chair and Zhen Li, current Chair-Elect, will be the new TC Chair.

In occasion of next ISCAS 2021 (on May 2021), the election of the new Chair-Elect and of the new Secretary of the TC will take place.

7) Meeting Adjournment

As a closing remark, Tyrone Fernando once again thanked all the present attendees for their participation and active involvement. The members thanked the TC officers for their service.

The meeting was adjourned at 16:15.

8) Attendees List (in alphabetical order)

#	Name	Affiliation	Country
1	Abdelali El Aroudi	University Rovira i Virgili	Spain
2	Adrian Ioinovici	Holon Institute of Technology	Israel
3	Aleksandra Lekic	TU Delft	Netherlands
4	Chi-Seng Lam	University of Macau	China
5	Dimitri Galayko	Sorbonne University	France
6	Dongsheng Yu	University of Mining and Technology	China
7	Elkim Roa	Universidad Industrial de Santander	Colombia
8	Giulia Di Capua	University of Salerno	Italy
9	Hiroo Sekiya	Chiba University	Japan
10	Ho (Herbert) Ching Iu	University of Western Australia	Australia
11	Indumini Ranmuthu	Texas Instruments Inc.	U.S.A.
12	Junmin Jiang	Texas Instruments Inc.	U.S.A.
13	Junrui Liang	ShanghaiTech University	China
14	Li (Lucia) Xiaolu	The Hong Kong Polytechnic University	Hong Kong
15	Liu (Adam) Dong	The Hong Kong Polytechnic University	Hong Kong
16	Tsong Juu (Peter) Liang	National Cheng University	Taiwan
17	Tyrone Fernando	University of Western Australia	Australia
18	Yan Lu	University of Macau	China
19	Yongxiang Xia	Hangzhou Dianzi University	China
20	Zhen (Daniel) Li	Beijing Institute of Technology	China

*** Minutes taken by Giulia Di Capua

*** Revised and confirmed by Tyrone Fernando and Zhen Li

*** October 28th, 2020 (*draft version*)

*** November 15th, 2020 (*final version*)