



IEEE Industry Applications Society Electric Machines Committee (EMC) 2018 Annual Meeting Minutes

Room B113 Oregon Convention Center, Portland, Oregon
Tuesday September 25, 2018, 4:30pm to 6pm

1. Call to Order

EMC Chair, Dr. Emmanuel Agamloh called the meeting to order at 4:30 PM. Members were requested to update their records or write their contact details to be included in the members' database (roster). It was clarified that formally, attendees must be an IAS member to vote on IAS committee business and attendees were requested to indicate this in the roster.

2. Approval of the Agenda and 2017 Meeting Minutes

A motion to accept the agenda was moved and seconded. This motion was carried unanimously.

The minutes of the last meeting (2017) were distributed electronically prior to the current meeting (9th September 2018). A motion to accept the 2017 minutes was moved and seconded. This motion was carried unanimously.

3. Chairman's Report (Dr. Emmanuel Agamloh)

a. Member recognitions

The following members were recognized for their contributions:

Prof. Hirofumi Akagi: 2018 IEEE Medal for Power Engineering, "for pioneering contributions to theory and practice of power conversion systems and their applications"

Prof. Longya Xu: Nikola Tesla Award (2018), "for contributions to design and control of efficient electric machines for wind power generation and electrified vehicles"

Dr. Tomy Sebastian: Nikola Tesla Award (2019), "for contributions to the design and application of high-performance permanent magnet synchronous machines to electric power steering"

Prof. Ronghai Qu: Elevated to IEEE Fellow (class of 2018), "for contributions to flux modulations machines and wind generators"

Prof. Pinjia Zhang: 2018 IAS Outstanding Young Member Award

Prof. Aldo Boglietti: 2018 ICEM Distinguished Service Award, "for contributions on electrical machines to the scientific community"

b. Transactions Papers Status Review

The current Associate Editors and reviewers were recognized and thanked for their service. The Associate Editors are:

Antonio J. Marques Cardoso (Portugal), Akira Chiba (Japan), Giulio De Donato (Italy), Yao Duan (USA), Greg Heins (Australia), Rukmi Dutta (Australia), Haran Karmaker (USA), Gianmario Pellegrino (Italy), Alberto Tessarolo (Italy), Rajeev Vyas (USA), Katsumi Yamazaki (Japan), Luca Zarri (Italy), Ronghai Qu (China), Zhang Pinjia (China), Parsa Leila (USA), Silvio Vaschetto (Italy), Min-Fu Hsieh (Taiwan), Peter Wung (USA).

The recently retired Associate Editors were also thanked:

Nicola Bianchi (Italy), Andrea Cavagninom (Italy), Chris Gerada (UK), Maarten Kamper (South Africa), Sang Bin Lee (Korea), Fabrizio Marignetti (Italy), Peter Omand Rasmussen (Denmark), Yilmaz Sozer (USA), Jagadeesh Tangudu (USA), Rafal Wrobel (UK), Thomas Wu (USA/China), Akin Bilal (USA), Marcello Pucci (Italy), Emmanuel Agamloh (USA).

The EMC submission statistics for IAS Transactions in 2018 were summarized:

- 226 original submissions, several invitations pending.
- EMC has highest all-time paper submissions of any IAS committee.
- Average first decision time for the EMC is 72 days versus an IEEE target of 90 days.

The EMC decision statistics for IAS Transactions were summarized:

- Since 1st January 2017 the EMC has made decisions on 592 manuscripts.
- 201 (34%) were accepted to transactions, 4 were accepted to the magazine, 198 (33%) were returned to the author for mandatory revisions, 104 (17%) were rejected.
- The geographical spread of all time EMC accepted manuscripts was summarised with the highest representation from: USA (19%), UK (12%), Italy (12%), Japan (8%), China (7%).

The process for prospective authors was outlined:

- EMC Members who wish to submit papers presented at an IAS sponsored conference for transactions should email details of their paper to the Current Chair of EMC (eagamloh@ieee.org). The email should include the following information:
 - Corresponding author's first name and last name.
 - Corresponding author's email address (used for manuscript central account) and affiliation.
 - Title of manuscript.
 - Conference name, and date of the conference where the paper was presented
- For more information visit the EMC website: <http://sites.ieee.org/ias-emc/publications/>

4. ECCE2018 Technical Program Vice-Chairs Report (Prof. Akira Chiba)

There were several new achievements for 2018:

- Decision letters were sent in early April!
- The number of Vice Chairs per track was not set to two but depended on the number of digests.
- Number of digests per Topic Chair (TC) was limited to 10.
- The same person cannot serve as TC for multiple sub tracks, hence a much larger number of TCs this year: about 168 versus 132 for ECCE 2017.

The Track G Chairs were recognized and thanked:

G01	General	10	Rajeev Vyas		
G02	Induction Machines	12	Renato Lyra	Luigi Alberti	
G03	IPMSM and Synchronous Reluctance Machines	30	Rajesh P. Deodhar	Abraham Gebregergis	Takashi Kato
G04	Other Synchronous machines (PMSM and Wound Field)	22	Nicola Bianchi	Cong Ma	
G05	Switched Reluctance and Flux Switching Machines	20	Rukmi Dutta	Rajib Mikail	
G06	Axial Flux Machines	5	Guilio De Donato		
G07	Special and Non-conventional Machines, Actuators, Linear, Integrated and Micro Machines, Energy Transfer, Transformers	16	Elena Lomonova	Yingjie Li	
G08	Noise, Vibration, Reliability, Machine Diagnostics and Protection	19	Tausif Husain	Konstantinos Gyftakis	
G09	Materials, Losses, Efficiency, Thermal and Manufacturing, Converter issues	28	Zbigniew Gmyrek	Alfred Munoz	Jose Alfonso Antonio Daviu
G10	Modeling and Analysis Methods (including multiphysics)	20	Katsumi Yamazaki	Vandana Rallabandi	Mohammad Rasouli
G11	Low Speed Direct Drive Machines, Magnetic Gearing	12	Jonathan Bird	Siavash Pakdelian	
G12	High Speed Machines, Bearingless Machines, high frequency effects	17	Xu Wei	Junichi Asama	
G13	Machines for Transportation (Automotive and Aerospace)	15	Ronghai Qu	Sara Roggia	
G14	Machines in Renewable Energy Applications	9	Alberto Bellini		
	Total	235		14	11
					3

The review process was explained:

- Topic Chairs were selected from volunteers who gave name cards in last EMC meeting in ECCE.
- Each reviewer could modify his area in the web system. Based on their area, Topic Chairs selected reviewers, appointing five reviewers for one digest.
- Generally, at least 3 review evaluations were requested. For split cases 5 evaluations were requested this year. For example, weak accept, accept, weak reject.
- Some reviewers did not provide evaluations even after deadline. Their review assignments were cancelled, and Topic Chairs and Vice Chairs worked on review evaluations. If one cannot review digests, please let us know in advance.
- One good practice: If one is not well informed on topic of digest, please provide “Neutral” rather than “Reject”.

The statistics for the EMC were summarized:

- 252 digests submitted: (186(2017), 245(2016), 203(2015), 201(2014)).
- 189 digests accepted: (140(2017), 151(2016), 141(2015), 137(2014))
- Acceptance ratio: 75%: (75%(2017), 62%(2016), 69%(2015))
- In even years, the number of digests is higher because IEMDC is in odd years.

The electric machines sessions were summarized:

- 23 Oral Sessions of 94 papers (20 in 2017):
 - 5 sessions on Monday,
 - 3 sessions Tuesday,
 - 8 sessions Wednesday,
 - 7 sessions Thursday.

- 3 Poster Sessions of 95 Papers:
 - 1 Session: Monday,
 - 2 Sessions: Tuesday.

5. Old Business

a. Awards committee nominations

It was noted that the EMC needs Awards Committee Volunteers.

The Awards that are relevant to the EMC are:

- Andrew W. Smith Outstanding Young Member Achievement Award (Deadline: March 15).
- Outstanding Young Member Service Award (Deadline: March 15).
- Distinguished Service Award (Deadline: March 15).
- Outstanding Achievement Award (Deadline: March 15).
- Kliman Award (Deadline: June 1).
- IAS Distinguished Lecturers (Deadline: March 31).
- IEEE Fellow (Deadline: March).

6. Subcommittee Reports (Dr. Emmanuel Agamloh):

a. Prize Paper Awards Presentation,

The following selection process was used for the ECCE prize paper awards:

- Eight top papers with the highest rankings from digest review process were selected for full review by panel.
- The panel included six-member committee of distinguished reviewers: balanced mix of industry (3) and academia (3), previous committee chairs, paper award winners
 - Prof. Akira Chiba
 - Dr. Bruno Lequesne
 - Prof. Sang Bin Lee
 - Dr. Mircea Popescu
 - Dr. Khwaja Rahman
 - Prof. Wen Soong

The winning papers were:

First Prize: *"Impact of Machine Magnetization State on Permanent Magnet Losses in Permanent Magnet Synchronous Machines"*, Daniel Fernandez Alonso, David Reigosa, Juan Guerrero, Carlos Suarez, and Fernando Briz, University of Oviedo, Spain

Second Prize: *"Principle of Variable Leakage Flux IPMSM Using Arc-Shaped Magnet Considering Variable Motor Parameter Characteristics Depending on Load Current"*, Takashi Kato, Toru Matsuura, Kensuke Sasaki, and Tsutomu Tanimoto, Nissan Motor Company, Japan

Third Prize: *"A New Perspective on the PM Vernier Machine Mechanism"*, Kangfu Xie, Dawei Li, Ronghai Qu, Xiang Ren and Yuan Pan, Huazhong University of Science and Technology, China

b. Standards

Prof. Emmanuel Agamloh suggested that working on standards is a good way (particularly for new members) to get involved with experienced members and the EMC needs members to be involved.

On-going projects:

- Project #1: IEEE P-11: “IEEE Std. 11: IEEE Standard for Rotating Electric Machinery for Rail and Road Vehicles”
 - WG Chair: Tim Burress.
 - Current Version: 2006.
 - PAR Approved: March 2015.
 - On-going revision since June 2015.
- Project #2: IEEE P-1812: “IEEE Std. 1812: IEEE Guide for Testing Permanent Magnet Machines”
 - WG Chair: Prof. Dan Ionel.
 - Trial-use guide published: 2015.
 - On-going revision since August 2016.

Upcoming Standards Projects

- IEEE P252 –IEEE Standard Test Procedure for Polyphase Induction Motors Having Liquid in the Magnetic Gap.
- IEEE P620 –IEEE Guide for the Presentation of Thermal Limit Curves for Squirrel Cage Induction Machines.
- PARs submitted August 31, 2018.
- Interested Members please contact:
 - Dr. Yao Duan yao.duan@ieee.org
 - Emmanuel Agamloh eagamloh@ieee.org

7. ECCE Session Chair Reports (2018 ECCE sessions completed as of meeting time)

Oral reports were presented by each of the chairs for the completed sessions. In general, the sessions were well attended with vibrant discussions. Special mentions were made of memorial sessions for Md. Azizur Rahman (which his daughter was able to attend) and for Ron Harley.

Some comments and concerns were raised:

- Room sizes for oral presentations were a bit small with a lot of people standing.
- 2.5 hours is a bit long for the poster sessions. 2 hrs would be more appropriate (Andrea Cavagnino).
- Room is set up so that chairs are behind the presenter – hard for the presenter to see (Renato Lyra).

8. New Business:

a. 2019 Officers –EMC Past Chair Nominates Slate of Officers (Prof. Andy Knight)

In his position as EMC Past-Chair, Prof. Andy Knight nominated the following officers of the Committee for 2018:

- Chair: Dr. Emmanuel Agamloh (eagamloh@ieee.org)
- Vice Chair: Prof. Akira Chiba (chiba@ee.e.titech.ac.jp)
- Secretary: Dr. Greg Heins (gregheins@ieee.org)

A motion to accept the nominations was moved and seconded. This motion was carried unanimously.

b. Publications Update (Prof. Andy Knight – Transactions Chair for IAS)

Prof. Andy Knight discussed the process for transactions and noted:

- Of the approximately 650 submissions to Transactions on Industry Applications, about 150 were from EMC.
- The EMC needs to do a better job in identifying potential award-winning papers. Good papers can be flagged by Reviewers, Associated Editors and Editors. It is hard to work out retrospectively which paper was good.

c. Publications Update and IAS Sponsored Conferences (Dr. Tom Nondahl, IAS Transactions Editor)

IAS Sponsored Conferences

- A list of the IAS sponsored conferences is kept in a spreadsheet kept by the meetings department. This list is regularly updated (about monthly).
- All papers from conferences that are financially sponsored by IAS are eligible to be submitted to transactions.
- 20% of papers from technically sponsored conferences are eligible to be submitted to transactions:
 - An IAS representative from the technically sponsored conference nominates which 20% are eligible.
 - Tom Nondahl then sends an email to the corresponding authors.
 - If the authors choose to submit, Tom Nondahl sends the submission to the appropriate committee.

Prof. Tom Jahns requested clarification on the threshold for how much a conference paper needed to be changed before submission to transactions.

Dr. Tom Nondahl explained:

- Until 2015 there was a paragraph in the IEEE rules that an EIC had the discretion to allow a paper to be republished verbatim.
- In 2016 that paragraph was removed.
- In 2017 there was a question from IEEE to the IAS as to how the IAS ensured that a paper was not published verbatim. A requirement was introduced that an author cite the conference paper.
- In 2018 Tom began doing a check on every paper. He uses an open source program written by a professor from Purdue University. If the similarity is higher than 80% then he looks at the equations and the figures. If it is still very similar he will send it back to the authors for modification. In the last year he has returned about 15 papers (out of about 500).

- IEEE has never set a specific percentage, so Tom had to choose the 80% based on his experience. In response to a question from the floor, Tom clarified that those 15 ended up being revised and resubmitted.
- The current average similarity is about 40% with some being as low as 2 or 3%. A low similarity score is okay as long as the topic and analysis method remain the same.

d. ECCE 2018 Update (Dr. Avoki Omekanda, ECCE 2018 General Chair)

Dr. Avoki Omekanda presented the progress of ECCE so far. Session chairs were invited to discuss how their individual sessions went. The consensus was that the sessions were well attended with quality presentations and good discussions.

e. ECCE 2019 –Preparation for ECCE 2019 (Dr. Emmanuel Agamloh)

Prof. Akira Chiba and Dr. Greg Heins will be ECCE 2018 TPC Vice-Chairs.

Dr. Emmanuel Agamloh requested volunteers to serve as Topic & Session Chairs for ECCE 2018.

Many members volunteered to serve. The committee thanks all prospective volunteers.

f. Other Upcoming Conferences

May 12-15, 2019 – San Diego, CA, USA <http://iemdc-conference.org/>

March 17-21, 2019 – Anaheim, CA, USA <https://www.apec-conf.org/conference>

Pascal Maussion, the general chair of SDEMPED 2019 (Toulouse, France) presented information. More information at: http://inpact.inp-toulouse.fr/SDEMPED2019/conference_scope.html

9. Other Business

a. Necrology (Dr. Pete Wung)

Dr. Pete Wung acknowledged the members of the EMC we have lost in the past year: Peter Lawrenson (October 27, 2017), Ronald Gordon Harley (October 30, 2017) and Md. Azizur Rahman (June 16, 2018). In thinking about the achievements of these three members we are reminded that:

“We are merely dwarfs standing on the shoulders of giants.”

He requested that the committee observe a moment of silence.

10. Adjournment

A motion to adjourn was moved and seconded. This motion was carried unanimously.

Submitted by

Dr. Greg Heins

Secretary, IEEE IAS Electrical Machines Committee

October 30, 2018