

2020

IEEE IAS Electric Machines Committee

2019 Committee Meeting

Saturday, November 7 8:00-9:00 EST

Webex Event number (access code): 125 139 1711 Event
password: VEjYtsj6g24

Event address for attendees:

<https://ieeemeetings.webex.com/ieeemeetings/onstage/g.php?MTID=edd937cdd4c0e8db7f006d066cfc3eea9>

Chair: Akira Chiba



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2020

Agenda

1. Review and Approval of 2019 Committee Meeting Minutes
2. Chairman's Report
 - a. Transactions Papers Status Review
 - b. ECCE2020 Technical Program Vice-Chairs Report
3. Old Business
4. Subcommittee Reports:
 - a. Prize Paper Awards Presentation,
 - b. Standards
5. ECCE Session Chair Reports (2020 ECCE sessions)
6. New Business:
 - 2021 Officers – *EMC Past Chair Nominates Slate of Officers*
 - Publications Update and IAS Sponsored Conferences
 - ECCE 2020 Update
 - ECCE 2021 – Preparation for ECCE 2021
 - Other Upcoming Conferences
8. Other Business
9. Adjournment



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Attendance

- Update of the roster
- Recruitment drive for new members
- Request for serving as a TC in ECCE 2021

We are planning to use Microsoft Forms

- To update members contact details in the EMC member database,
- To collect information about your intention to volunteer in ECCE 2021 as a Technical Chair(TC) and/or reviewer.

We can use LinkedIn group to run a recruitment drive for new membership.



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What is Microsoft Form?

- Microsoft Forms is an app from Microsoft that allows to create surveys, quizzes, and polls.



- EMC members will receive this survey form as a link via an Email from us.
- We request you to complete the Form when you receive it.
- We will run a separate survey in the LinkedIn group, to recruit new members.



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EMC member database, New member

- We have used IEEE LISTSERV to create an EMC member name list (database).
- All EMC announcements are made via this name list.
- If a member wish to unsubscribe from the list, the option is available at the bottom of the email communication that you receive from us.

New members:

- If you are an IEEE – IAS member, and wish to be an EMC member, please send an email to rukmidutta@ieee.org with your details.

Alternatively, you can go to

<https://listserv.ieee.org/cgi-bin/wa?SUBED1=EMC-IAS&A=1>

and opt for subscription to EMC-IAS list.



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2020

1. 2019 Minutes



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Motion is invited to Accept 2020 Minutes for the Record !

- Minutes were distributed electronically. Corrections were requested and required corrections were made.
- Minutes were recirculated again on 02/11/2020.
- Approved minutes will be available at IAS – EMC website:
<https://site.ieee.org/ias-emc/meeting-minutes/>



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2020



Member Recognitions

EMC members



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2020
<ul style="list-style-type: none">• Emeritus Professor Kouki Matsuse IEEE Richard Harold Kaufmann Award(2020), <i>“for pioneering contributions to the advancement of sensorless vector control of AC drives and multilevel inverters for industrial applications.”</i>• Prof. Zi-Qiang Zhu IEEE Nikola Tesla Award (2021), <i>“for contributions to the design, modeling, control, and application of ac permanent magnet machines and drives.”</i>• Prof. Akira Chiba IEEE Nikola Tesla Award (2020), <i>“ for contributions to bearingless and reluctance machines”</i>
<ul style="list-style-type: none">• Class of 2020 IEEE Fellows in EMC <ul style="list-style-type: none">• Andrea Cavagnino <i>“for contributions to multi-physics design and material characterization of electric machines”</i>• Mahinda Vilathgamuwa <i>“for contributions to power quality and grid storage”</i>
<ul style="list-style-type: none">• Dr.Bruno Lequesne IAS Distinguished Service Award(2020)

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2020
Akira
<h1>2. Chairman's Report</h1>

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2020

Transactions Paper Review Status



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2020

Current Associate Editors

- Antonio J. Marques Cardoso Portugal
- Giulio De Donato Italy
- Yao Duan USA
- Greg Heins Australia
- Gianmario Pellegrino Italy
- Alberto Tessarolo Italy
- Rajeev Vyas USA
- Katsumi Yamazaki Japan
- Ronghai Qu China
- Rukmi Dutta Australia
- Zhang Pinjia China
- Parşa Leila USA
- Silvio Vaschetto Italy
- Min-Fu Hsieh Taiwan
- Mircea Popescu UK

**Thank you to all
EMC AEs as well
as our TIA Paper
Reviewers !**




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Overview of IAS Publications

IAS Owned

- ▶ Transactions on Industry Applications
- ▶ Industry Applications Magazine
- ▶ Open Journal of Industry Applications


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Floor



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IAS Transaction paper selection process

Two Transaction papers, one magazine paper from EMC.

- ▶ Each Technical Committee and Special Issue given right to nominate at least one paper
- ▶ Additional nomination for every 10% of papers published
 - e.g. 2019:
 - 719 papers published in Transactions on Industry Applications
 - EMC, PCC, IACC all published more than 72 papers, so were allowed to nominate 2 papers
- ▶ Potentially 23 nominations for TIA, 15 for IAM
- ▶ This year, many delays: 14 nominations for TIA, 8 for IAM

- ▶ Nominations reviewed by ad hoc committee including current / past TCPRC


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2020 Prize Paper Award Recipients

Transaction on Industry Applications

Recommended by EMC

First


Cogging Torque Minimization and Performance of the Sub-Fractional HP BLDC Claw-Pole Motor
S. Leitner, H. Gruebler and A. Muetze,
<https://ieeexplore.ieee.org/document/8738872>

Second

An Investigation on Diagnosis-Based Power Switch Lifetime Extension Strategies for Three-Phase Inver
E. Ugur, S. Dusmez and B. Akin,
<https://ieeexplore.ieee.org/document/8515087>

Third

Modeling for Series Arc of DC Circuit Breaker
Y. Kim and H. Kim,
<https://ieeexplore.ieee.org/document/=8493346>




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Number of 2020 TIA Papers by Department & Committee



I&CPSD	C&SC	ESC	PSEC	PSPC	REP	
100 Papers	0	29	46	25	0	
IPCSD	EMC	IDC	IPCC	PED&CC	SECSC	TSC
357 Papers	116	50	98	13	48	32
MSD&AD	EPC	IA&CC	IL&DC			
113 Papers	17	92	4			
PID	CIC	ESaFC	Metals	Mining	PCIC	P&P
45 Papers	0	12	11	6	10	6

IPCSD is #1 in IAS. EMC is #1 in IPCSD

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Number of TIA Papers and Pages as of Oct 2020

Year	# of Papers Printed or *Planned	# of Pages Printed or *Planned	Included
2015	552	5456	6 Regular Issues, 1 Special Issue, Index, Reviewer List
2016	525	5380	6 Regular Issues, Index, Recognition of Reviewers
2017	619	6084	6 Regular Issues, 1 Special Issue, Recog. of Reviewers
2018	626	6632	6 Regular Issues, 1 Special Issue, Recog. of Reviewers
2019	719	7596	6 Regular Issues, 2 Special Issues, Recog. of Reviewers
2020	*665	*7250	6 Regular Issues, 2 Special Issues, Recog. of Reviewers

Number of submission has increased in last several years.

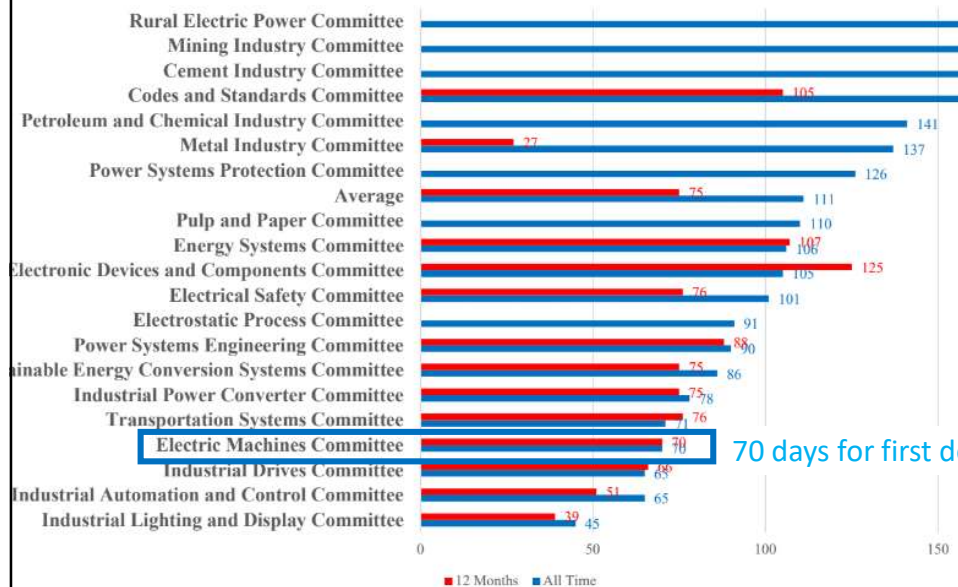
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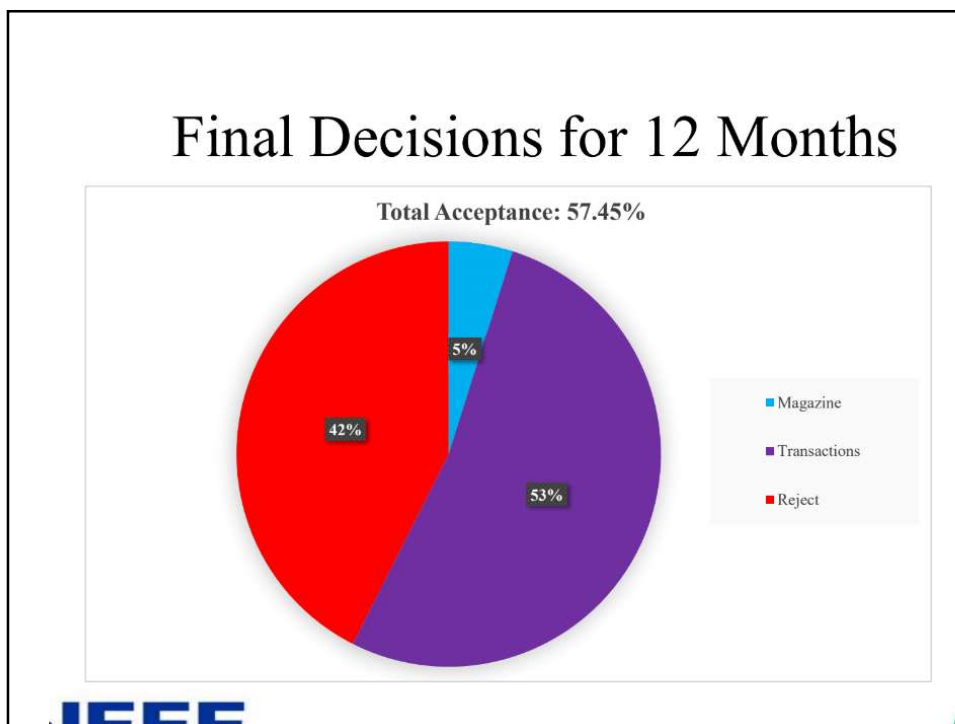
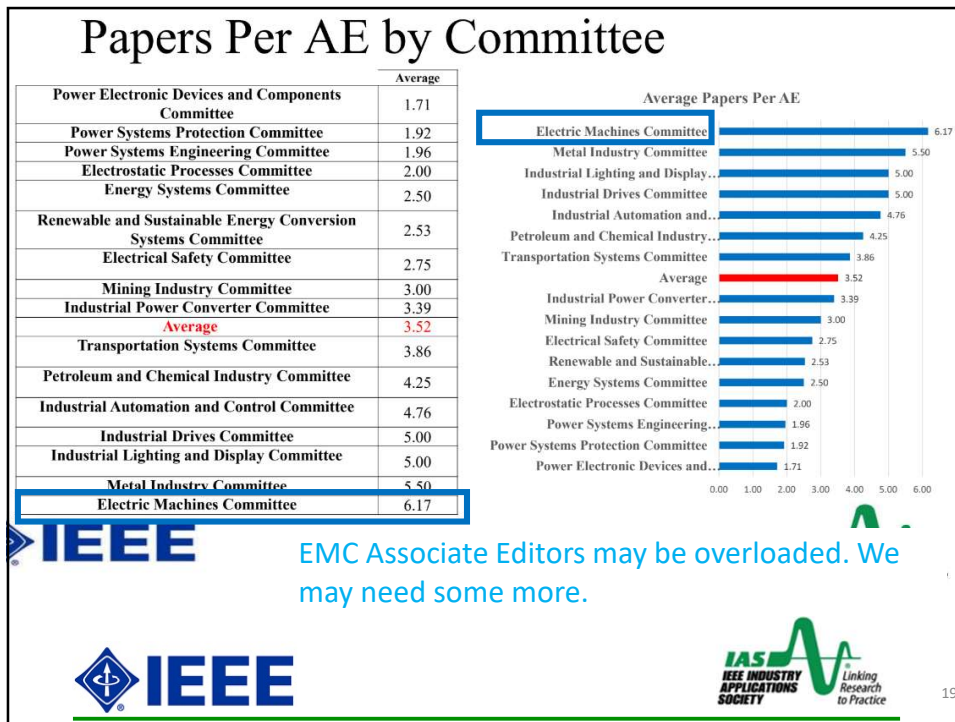
IEEE SOCIETY

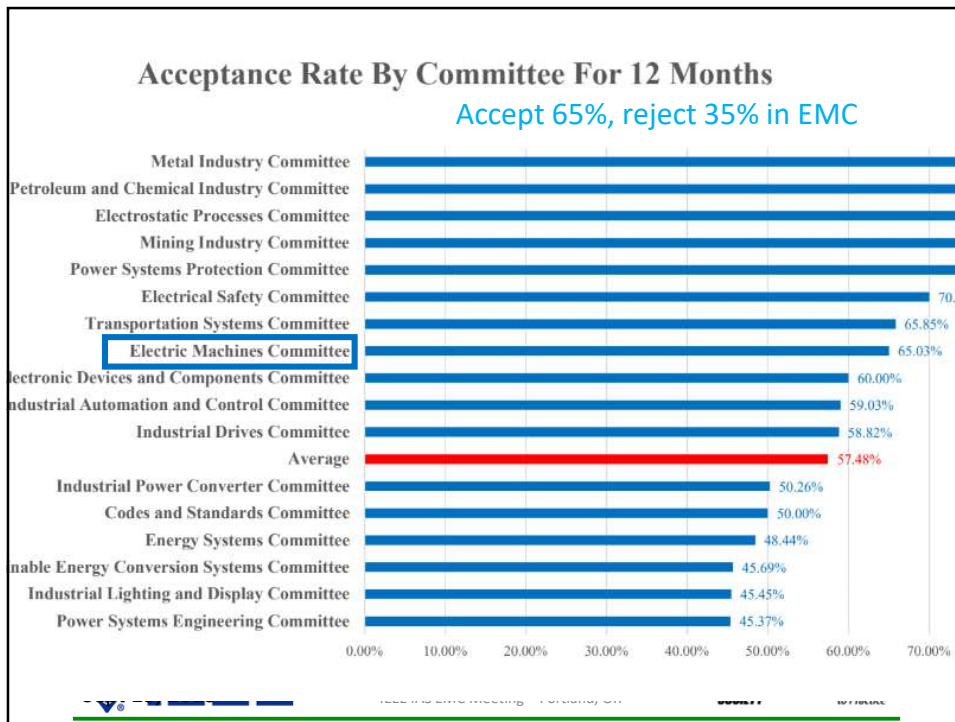
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Average First Decision Time (All Time and 12 Months)




70 days for first decision








Six Special Issues Done or in Process

Special Issue	Designation	Deadline for digest submission	IA Transactions Issue
Advanced Approaches and Applications for Electric Vehicle Charging Demand Management	AAAE	8/15/2019	Part II Sep/Oct 2020
Multilevel Converter applications in the area of Renewable Energy, More Electric Propulsion, Electric Vehicles and Power Grid integration	MCRE	12/31/2019	Jan/Feb 2021
Machine Learning-based Security and Efficiency Enhancement of Power Systems and Electronics	MLEEP	4/1/2020	May/June 2021
Magnetically Levitated Motor Systems	MLMS	5/1/2020	Nov/Dec 2021
Advanced and Emerging Technologies of High-efficiency and Long-distance Wireless Power Transfer Systems	ATWPT	12/31/2020	Jan/Feb 2022
Advanced Technology and Application for Hydrogen-Integrated Transportation and Power Systems	ATAH	1/15/2021	Mar/Apr 2022

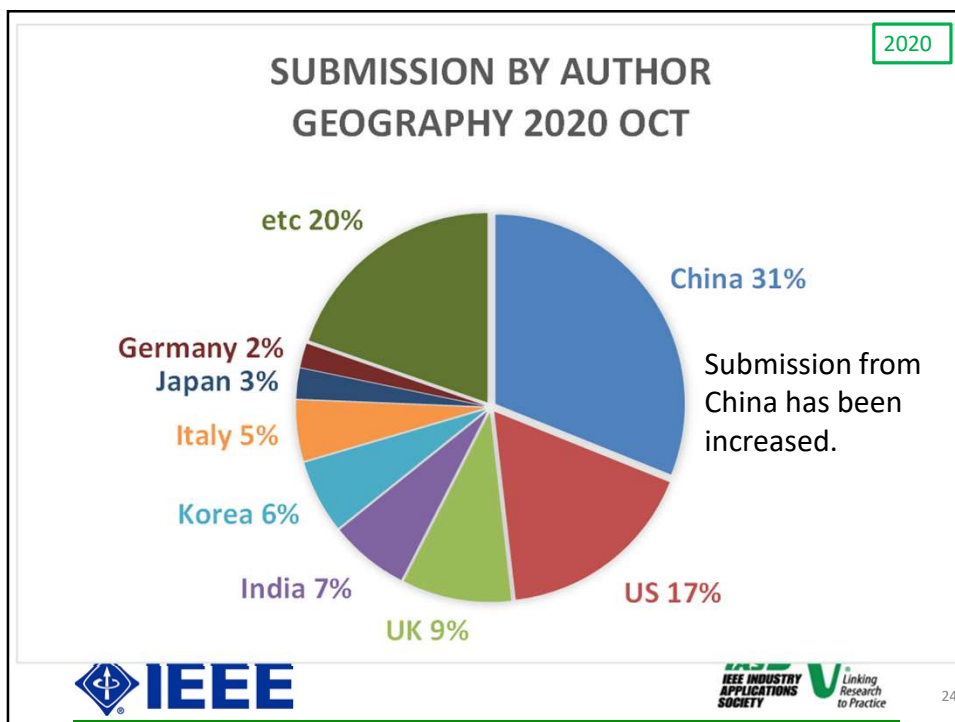
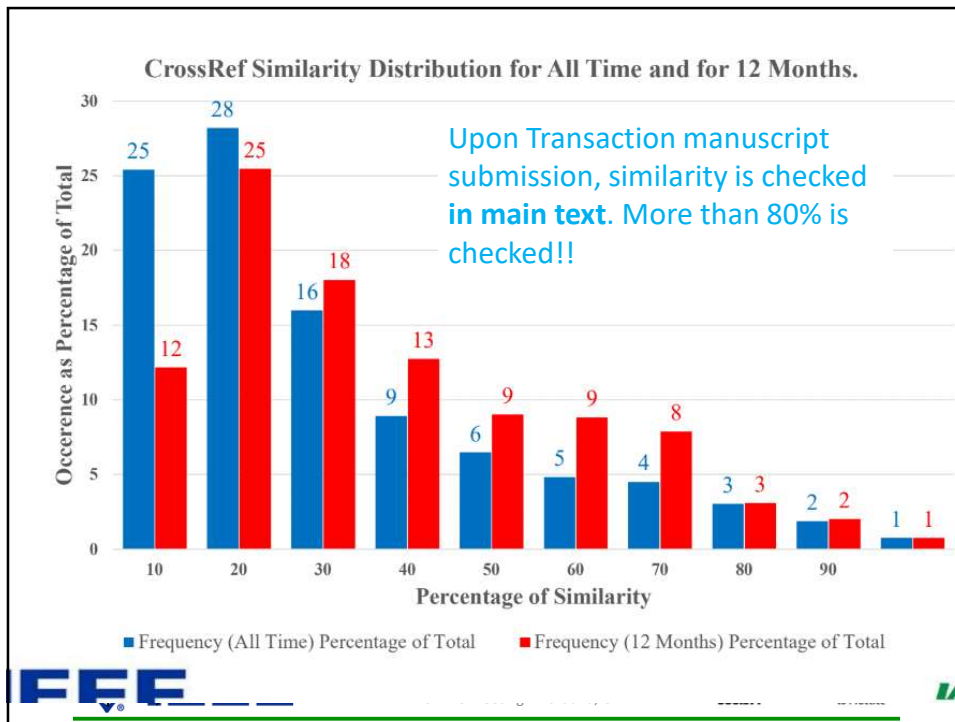


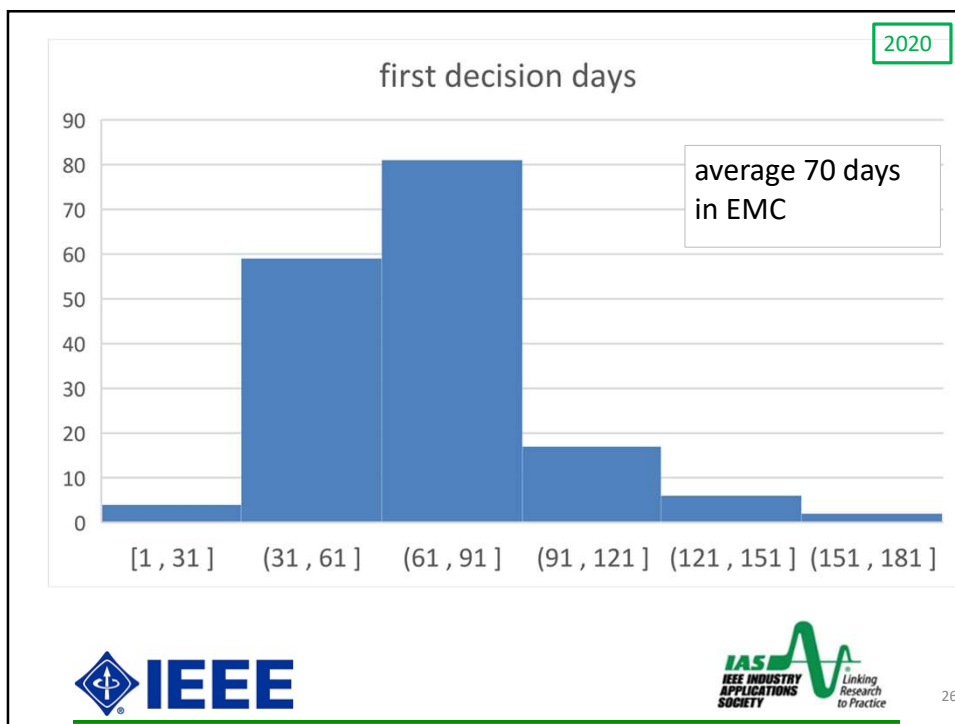
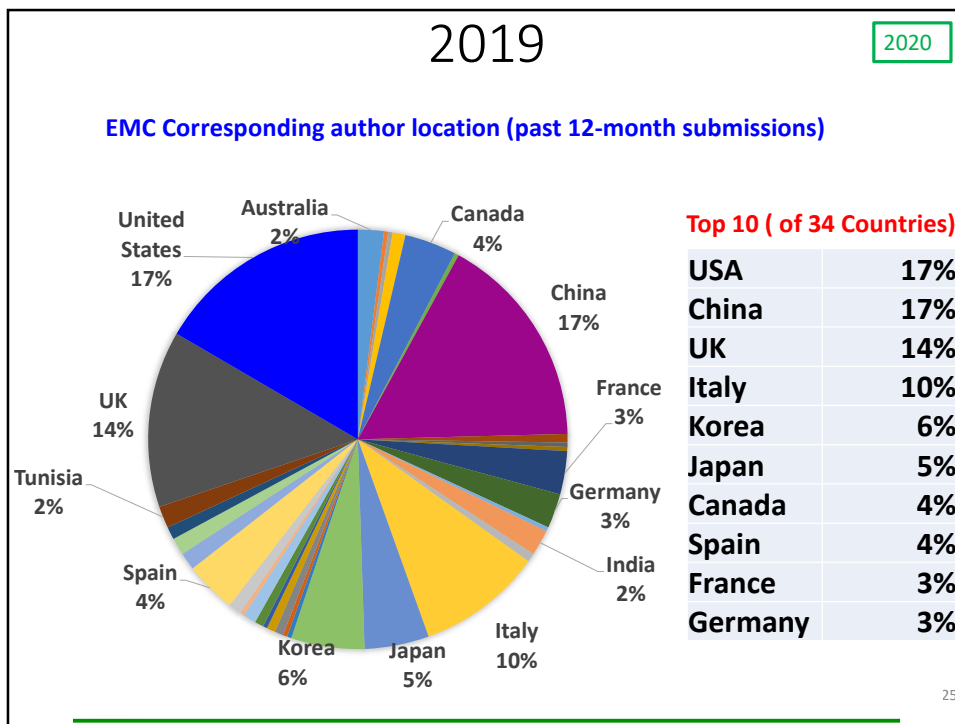


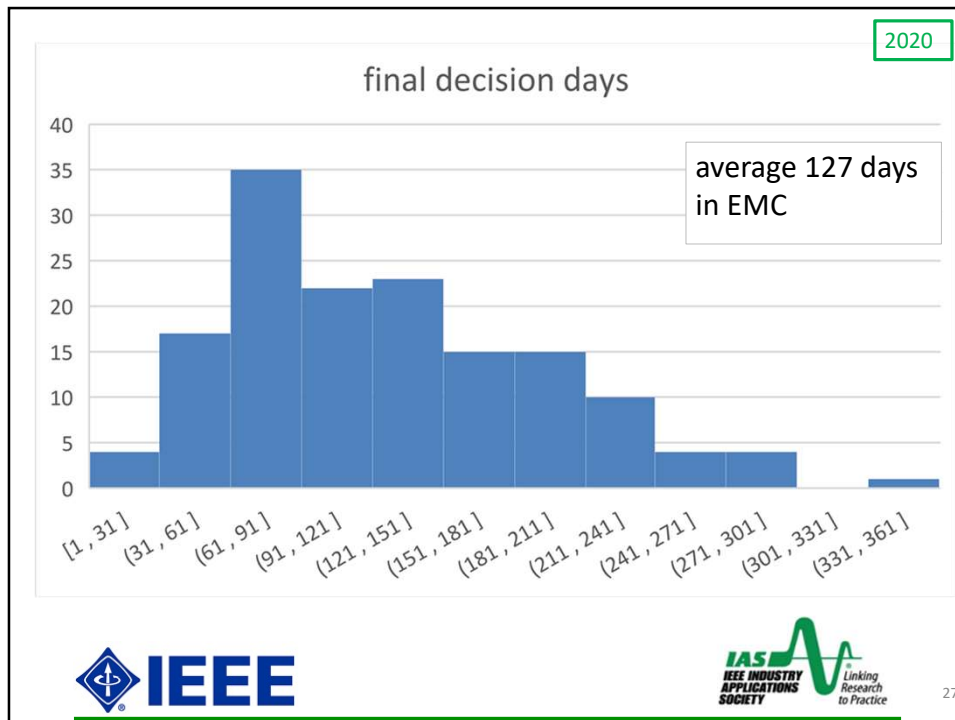




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2020

Process for Prospective Authors

- EMC Members who wish to submit papers presented at an IAS sponsored conference for transactions
- For invitation, send Email to
 - Current Chair of EMC (achiba@ieee.org)
- Include in your email:
 - Given and Family Name
 - Corresponding email
 - Affiliation
 - Paper Title
 - Conference Name and Date
- On manuscript submission, explain the differences between the conference and Transactions versions in the **cover letter**.
- For more information visit EMC website :<http://sites.ieee.org/ias-emc/publications/>

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Linking Research to Practice

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ECCE 2020 Vice-Chairs' Report

Dr Greg Heins



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2020 ECCE EMC Topic Chairs



G01	Edwin Xikai Sun	Rockwell Automation
G01	Rajeev Vyas	General Motors
G02	Andrea Cavagnino	Politecnico di Torino
G02	Cong Ma	BorgWarner Corporation
G03	Takashi Kato	Nissan Motor Co., Ltd., Japan
G03	Tsarafidy Raminosoa	Oak Ridge National Laboratory
G03	Zhe Zhang	Eaton Corporation, USA
G04	Gerd Bramerdorfer	Johannes Kepler University Linz, Austria
G04	Silvio Vaschetto	Politecnico di Torino
G05	Peng Han	University of Kentucky, USA
G05	Takashi Kosaka	Nagoya Institute of Technology
G06	Giulio De Donato	Sapienza - University of Rome, Italy
G07	Bryan Ruddy	University of Auckland, New Zealand
G07	Narges Taran	Borg Warner Inc.
G08	Jose Antonino-Daviu	Universitat Politecnica de Valencia, Spain
G08	Shanelle N. Foster	Michigan State University, United States
G08	Roy McCann	University of Arkansas
G09	Antonio Griffio	University of Sheffield
G09	Dr. Nick Simpson	University of Bristol, UK
G09	Zhiwei Zhang	The Ohio State University
G10	Baoyun Ge	C-Motive Technologies, Inc
G10	Tausif Husain	Borgwarner
G11	Fan Wu	Marquette University
G11	Renato Lyra	Aerotech Inc.
G12	Eric L Severson	University of Wisconsin-Madison, USA
G12	Wolfgang Gruber	Johannes Kepler University Linz, Austria
G13	Alireza Fatemi	General Motors, USA
G13	Dr. Rajesh Pranay Deodhar	IMRA Europe SAS UK Research Centre
G13	Subrata Saha	Aisin AW Co. Ltd. Japan
G14	Lijian Wu	Zhejiang University, China
G14	Udochukwu Bola Akuru	Stellenbosch University, South Africa



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Thank you all Topic Chairs!!

- ECCE Group G Vice Chairs are EMC secretary (Rukmi Dutta) and Vice Chair (Greg Heins).

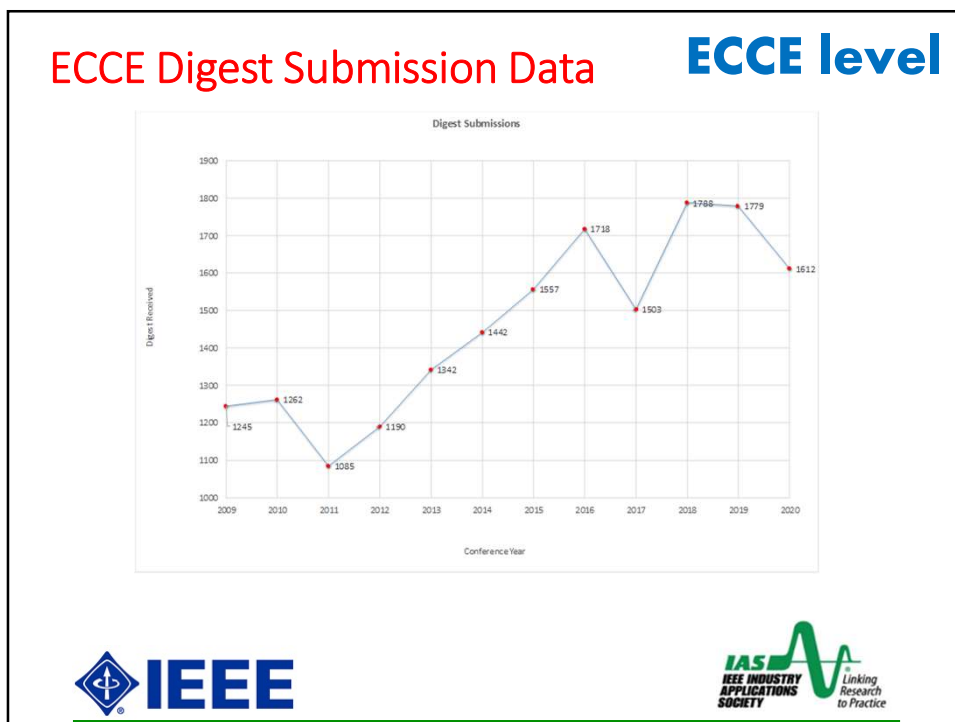
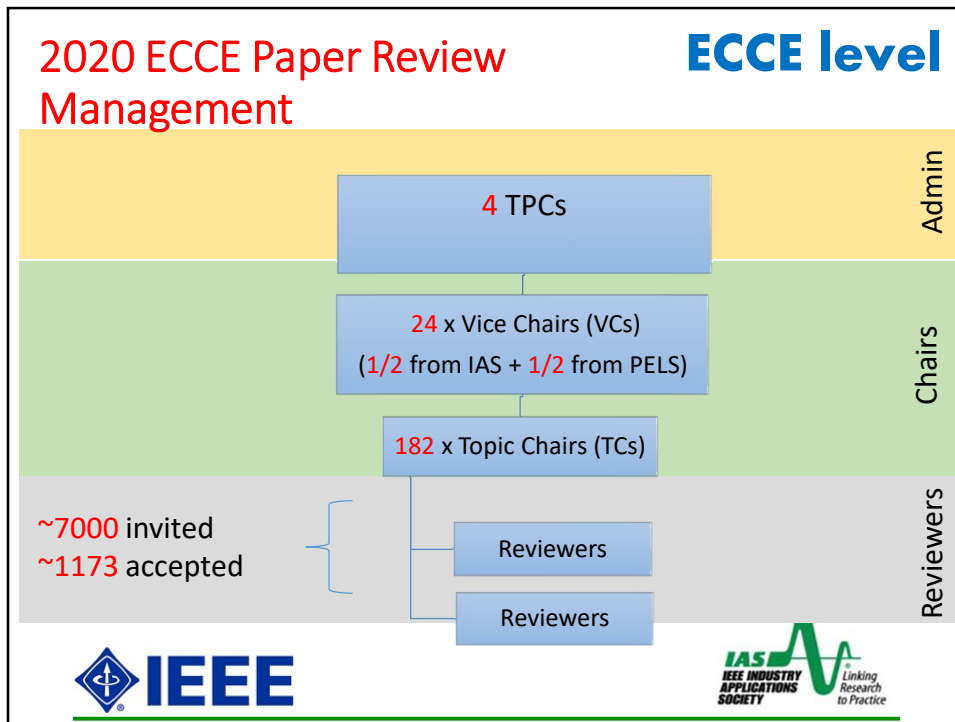


Review Process

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- Topic Chairs were selected from volunteers who gave name cards in last EMC meeting in ECCE. **They were contacted to find their preference of G01-G14.**
- Each reviewer can modify his area in the web system. Based on their area, Topic Chairs selected these reviewers. Five reviewers for one digest.
- Generally, at least 3 review evaluations were requested, however, **5 evaluations were requested for split cases**, 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 can not review digests, please let us know in advance.





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Electric Machine Statistics

- **234** digests submitted.
(249 (2019), 252 (2018), 186(2017), 245(2016), 203(2015), 201(2014)).
 - **173** digests are accepted.
(183(2019), 189(2018), 140(2017), 151(2016), 141(2015), 137(2014))
 - **74%** Acceptance ratio
(71% (2019), 75%(2018),75%(2017),62%(2016), 69%(2015))
- In even years, a number of digests is high because IEMDC is in odd years.

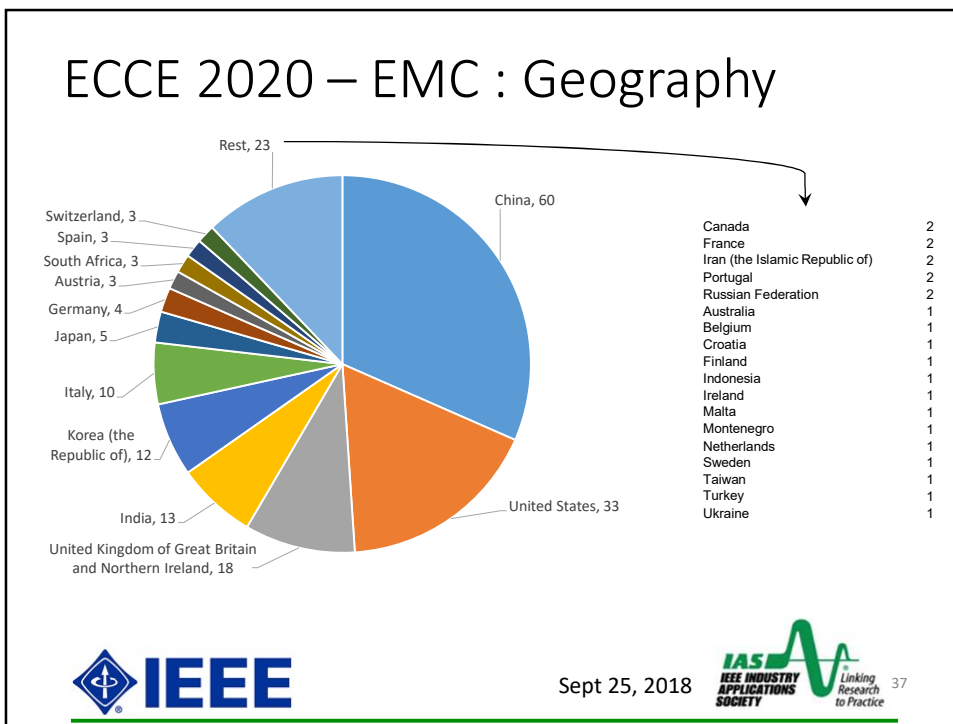


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Electrical Machine Sessions

- 21 Oral Sessions (21 in 2019, 23 in 2018, 20 in 2017, 18, 19)
- 6 Poster Sessions
- With the move to virtual sessions, some papers were withdrawn





2020

3. Old Business






2020

Awards

- 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 1)
- We can see 2020 recipients in IAS web site

} IAS members <35 years old

EMC Needs Awards Committee Volunteers !!
Please contact EMC Vice Chair for more information



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Awards in EM outside of IAS



2020

IEEE PES Cyril Veinott Electromechanical Energy Conversion Award Prof. Dan Ionel **“For contribution to the design, development and manufacturing of high efficiency electric motors and generators.”**

Winners of 6th Nagamori Awards in EMC members

Chris Gerada	The University of Nottingham
Annette Muetze	Graz University of Technology

- Fields of **motors**, actuators and power **generators**, and their control methods, application technologies, etc.
- mid-career researchers or development engineers no more than 30 years after the Bachelor’s degree.



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4.Subcommittee Report



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2020

Greg

2020 EMC Prize Paper Awards

(for Papers presented at ECCE 2019)



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Selection Process

- 8 top papers with highest ranking from digest review process selected for full review by panel
- 6 member committee of distinguished reviewers
 - Good Mix of industry (3) and academia (3)
 - Previous committee chairs, paper award winners, subject matter Experts
 - Prof. Akira Chiba
 - Prof. Aldo Boglietti
 - Dr. Bruno Lequesne
 - Dr. Mircea Popescu
 - Prof. Wen Soong
 - Dr. Haran Karmaker



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Third Prize

Paper Title:

“Very-High-Speed Miniaturized Permanent Magnet Motors: Modeling and Experimental Validation”

Authors:

Guillaume Burnand and Yves Perriard
École Polytechnique Fédérale de Lausanne (EPFL)



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Second Prize

Paper Title:

"Design of High Performance Shaped Profile Windings for Additive Manufacture"

Authors:

Nick Simpson, Chris Tighe and Phil Mellor
University of Bristol, Electrical Cooling Solutions Ltd



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First Prize

Paper Title:

"Detection and Classification of Damper Bar and Field Winding Faults in Salient Pole Synchronous Motors"

Authors:

Y. Park, S.B. Lee J. Yun, M. Sasic and G.C. Stone
Korea University, Hyundai Electric, Qualitrol-Iris
Power Engineering



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Standards

Standard sub committee
Chair Dr. Haran Karmaker



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5. ECCE 2020: Session Reports

Feedback from session chairs on EMC sessions completed as of time of this meeting



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We thank all EMC Session Chairs of ECCE 2020!

Monday

2020

SS1A Tom Lipo Memorial Session, **Thomas Jahns, Bulent Sarlioglu**

S1 Machines for Transportation, **Alireza Fatemi, Rajesh Deodhar**

S5 5: High Speed and Bearingless Machines, **Eric Severson, Peng Han**

S9 9: Optimization in Electric Machines, **Rukmi Dutta, Giulio De Donato**

Tuesday

Poster 1 :NVH, Reliability and Machine Diagnostics **Jose Antonino-Daviu, Francisco Paz**

Poster 5: Electric Machines Materials, Losses, Thermal, Manufacturing, Modelling Issues **Rajeev Vyas, Edwin Xiaki Sun**

Poster 6: Direct Drive, Actuators, Magnetic Gearing, Axial Flux, Non-Conventional Machines **Udochukwu Akuru, Lijian Wu**

Poster 9: Electric Machines (IPMSM and Synchronous Reluctance) **Takashi Kosaka, Ignacio Galiano**

Poster 13: Electric Machine Applications in Automotive, Aerospace, Renewable, Robotics **Alireza Fatemi, Rajesh Deodhar**

Poster 17: Electric Machines (Synchronous, Induction, Switched Reluctance, Flux-Switching) **Andrea Cavagnino, Alireza Fatemi**



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Experiences of a session co-chair at ECCE'20 IMRA EUROPE S.A.S UK Research Centre • Brighton

Rajesh Deodhar served as a session co-chair for the following sessions:

Session 1: Machines for Transportation (7 papers)

Poster 13: Electric Machine Applications in Automotive, Aerospace, Renewable, Robotics (15 papers)

Session 21: Permanent Magnet Machines (9 papers)

Some experiences and comments worth sharing amongst the EMC:

- Session participants, presenters, co-authors, and volunteers all had genuine enthusiasm (regardless of time zone spread – from 6am start on the West coast to past midnight in the Far East!) for overcoming challenges of a virtual conference, and make sessions as productive as possible.
- Maximum number of participants: 48, average number of participants: 28.
- We found it challenging to squeeze in more than 8 papers (roughly three and a half minutes per paper) in a 30-minute session (for each paper: announce paper title, presenter's name, one-line biography, one-line summary by presenter, and Q&A).
- The three IT platforms mostly worked well together. There were not many posts on the ON24 interface; most of participants preferred to post in the live Zoom session
- For future, we feel it is worthwhile to look for alternative platform(s) that offer an integrated experience – starting from conference proceedings, through to accessing individual papers, their AV presentations, their slides, and their live Q&A sessions.

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We thank all EMC Session Chairs of ECCE 2020!

2020

Wednesday

S13: Additive and Alternative Manufacturing for Electric Machines
 Nick Simpson, Nicola Bianchi

S17: AC Machines and Drives Andrea Cavagnino, Mahesh Swamy

S21: Permanent Magnet Machines Tsarafidy Raminosa, Rajesh Deodhar

S25: Thermal Analysis in Electric Machines Antonio Griffo, Nick Simpson

S29: Machine Diagnostics and Protection Narges Taran, Bryan P. Ruddy

S33: Switched Reluctance and Flux Switching Machines Gerd Bramerdorfer, Silvio Vaschetto

Thursday

S49: Noise, Vibration and Reliability in Electric Machines Jose Antonino-Daviu, Shanelle Foster



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Session chair report by Andrea Cavagnino

Poster 17: Electric Machines (Synchronous, Induction, Switched Reluctance, Flux-Switching) -
 Chair(s): Andrea Cavagnino, Alireza Fatemi

- 12 papers
- All the video was uploaded in the system; two of them exceeded the 5 minutes (almost 15 minutes!); one video was presented by a person that probably was not one of the paper co-authors
- Around 25-30 people attended at the live session, but they did not ask questions to the authors, however all the author present during the session received at least 1 question by the chairmans
- No co-author of the paper #0570 (Australia) and #0405 (China) attended to the live session, due to the time zone difference

Session 17: AC Machines and Drives - Chair(s): Andrea Cavagnino, Mahesh Swamy

- 8 papers
- All the video was uploaded in the system; quality and duration OK
- Around 22-25 people attended at the live session, but just one attendee (prof. Giacomo Scelba, university of Catania) did several questions to the authors. However all the co-author present at the session received at least 1/2 question by the chairmans
- No co-author of the paper #1580 (China), #0214 (China) and #0657 (Taiwan) attended to the live session due to the time zone difference



Comments:

- The attendance of the live session was generally good (also for other live technical sessions that I attended)
- The attendees (and some time the chairmans too) did not do questions to the authors. Probably, they did not watched the videos or read the papers in the proceeding
- **3 minutes of Q/A for each papers is not enough!** Probably, even if I can understood the reason due to the Zoom costs, 3-5 minutes of live presentation of the paper + 3 minutes for the Q/A would have been more effective and enjoyable.



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6. New Business – 2021 EMC Officers



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2020 Committee Officers

- **Chair:** Prof. Akira Chiba (chiba@ee.e.titech.ac.jp)
- **Vice Chair:** Dr. Greg Heins (greg.heins@regalbeloit.com)
- **Secretary:** Prof. Rukmi Dutta (rukmidutta@ieee.org)
- **Past Chair:** Prof. Emmanuel Agamloh (eagamloh@ieee.org)



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Role Rotations



- EMC promotes positions every two years



Motion to Approve Slate of Officers

2020

- Secretary Rukmi Dutta
- Vice Chair Greg Heins
- Chair Akira Chiba
- Past Chair Emmanuel Agamloh



2020



EMC LinkedIn Group past..past Chair Pete

IEEE IAS Electric Machines Committee Meeting.



The screenshot shows a LinkedIn group page for the 'IEEE IAS Electric Machines Committee'. At the top, there is an advertisement: 'Looking for Board Roles? - Advisory Boards are Seeking CEOs Right Now - Search 42 Currently Open. Ad ...'. The group is owned by Peter Wung, who created it in September 2020. It has 160 members, including Alejandro Pina Ortega and 90 other connections. The group is listed and has a 'Start a conversation in this group' button. A recent post by Peter Wung is visible, with the text 'Educator In Chief for Smart Grid at IEEE Ad Hoc Committee for LifeLona Learn...'. The group is associated with the Electric Machines Committee of the Industry Application Society (IAS) of the IEEE. Logos for IEEE and IAS (IEEE Industry Applications Society) are shown at the bottom.

What Is LinkedIn? From Wikipedia

- **LinkedIn** is a business and **employment-oriented online service** that operates via **websites and mobile apps**. It is mainly used for professional networking, including employers posting jobs and job seekers posting their CVs.
- Since December 2016 it has been a wholly owned subsidiary of Microsoft. As of May 2020, LinkedIn had 706 million registered members in 150 countries.
- LinkedIn allows members (both workers and employers) to create profiles and "connections" to each other in an online social network which may represent real-world professional relationships. Members can invite anyone (whether an existing member or not) to become a "connection".
- World's largest professional network with 706+ million users in more than 200 countries and territories worldwide.









What is a LinkedIn Group? (From LinkedIn)

Group Membership

- LinkedIn Groups is the ideal way to connect with like-minded people around the world. Join forces with your professional peers to stay informed on relevant topics and participate in thought-provoking conversations.
- LinkedIn Groups give professionals a shared space to connect with and learn from others who share their goals.



 <p>IEEE Industry Applications Society 6.1K members</p> <p>Our purpose is to promote the IEEE IAS vision / mission statement. We would like to solicit ideas from past/present/future IAS officers, power engineering students, and interested participants and provide learning...</p>
 <p>IEEE IAS Electric Machines Committee 160 members</p> <p>This is a group associated with the Electric Machines Committee of the Industry Application Society (IAS) of the IEEE. We are a social group with an electric machines problem. We are academics, electric machine analysts and...</p>
 <p>IEEE-IAS Industrial Power Converters Committee (IPCC) 7 members</p> <p>To exchange ideas and post updates for IEEE-IAS industrial power conversion committee</p>
 <p>IEEE IAS Metal Industry Committee 12 members</p> <p>Brings together the members of IEEE IAS METC</p>
 <p>IEEE Pulp & Paper Committee 94 members</p> <p>The Pulp and Paper Industry Committee (PPIC) is a technical committee of the Process Industries Department (PID) of the Industry Applications Society (IAS) of the Institute of Electrical and Electronics Engineers (IEEE). The...</p>
 <p>IEEE IAS Industrial Lighting and Displays 30 members</p> <p>The aim of this group is to provide a collaborative forum for members with an interest in the development of efficient lighting systems and displays. To enjoy the full benefits of this group, please consider becoming a...</p>



Why LinkedIn Group?

- IEEE IAS Electric Machines Group is a Listed Group. Which means that people can look for it by searching.
- Use the group to grow the Committee, and IAS. Get people that we don't usually reach.
- We can check the group membership with the EMC roster and get people to join IEEE and IAS.
- A way to post notices from the committee to ask for volunteers, input, advertise CFP, and conferences.
- Share technical information



Why LinkedIn Group?

- Share technical information. We already have people asking questions about manufacturing methods, design questions.
- We can use the group to talk about expertise in areas like standards, software issues.
- We can use it to share expertise, and benefit the committee members.



This is a group associated with the Electric Machines Committee of the Industry Application Society (IAS) of the IEEE.

We are a social group with an electric machines problem. We are academics, electric machine analysts and designers, electric drive analysts and designers, and everyone who is interested in the electric machine synthesis and analysis area.

We are officially affiliated with the EMC of the IAS, so we will try very hard to keep the membership within the EMC, you can join the EMC if you wish, we can tell you how. You must also be a member of the IAS and of the IEEE. Being a member of the EMC means that you will contribute to the committee function by volunteering to do organizing work of the committee as well as contribute to the knowledge base within this group. We want to have pertinent machine and drives content from the commercial publications and news releases. We will also use this platform to notify members of upcoming deadlines for sponsored conferences, committee updates, pertinent information about the machine and drives world.



Things to Do to Build the Group (From LinkedIn)

Group Management

- Who else can help you manage the group?
- What will their roles and responsibilities be?
- How will you communicate and hold each other accountable?

Group Culture

- What is the purpose of the group?
- Who should join?
- What criteria will you use to validate membership?
- How should members use the group?
- What are the rules and guidelines for conversations? How will the rules be enforced?



Recommendations for Conversations (From LinkedIn)

Conversations

- What topics are members interested in discussing?
- How often will your team post and/or comment in the group?
- What daily, weekly, or monthly themes will be relevant to your group?
- How will you ensure that members feel welcome?
- Are there members you can partner with as community leads?
- How will you reward members who actively participate?

Startup List

- Confirm that your group name is specific and concise. **I think the name is straightforward**
- Upload a logo that is clear and relevant. **I created a logo from the IAS logo. If someone can do better, have at it.**
- Complete the group description and group rules **I did the bare minimal, this is up to the Committee leadership**
- Share your first post to set the tone of the community. **Done.**



2020

7. Future Conference Organization



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Meeting, Again. Safely!
Save the Date!

Shannelle

ECCE 2021
IEEE ENERGY CONVERSION CONGRESS & EXPO Vancouver, Canada Oct. 10-14

IEEE

IASI
IEEE INDUSTRY APPLICATIONS SOCIETY
Linking Research to Practice

Vancouver Convention Center - West 2020

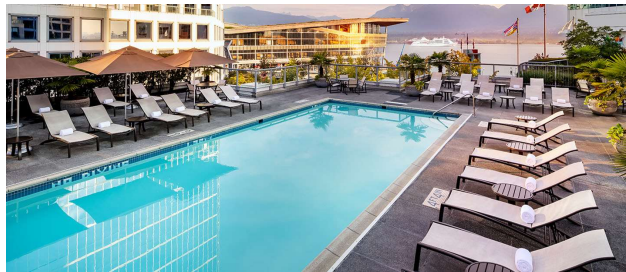
- Sustainable building (double LEED® Platinum certified facility), six-acre living roof
- Waterfront views from every window

2020

Hotels



- Marriott Pinnacle Downtown
- Fairmont Waterfront



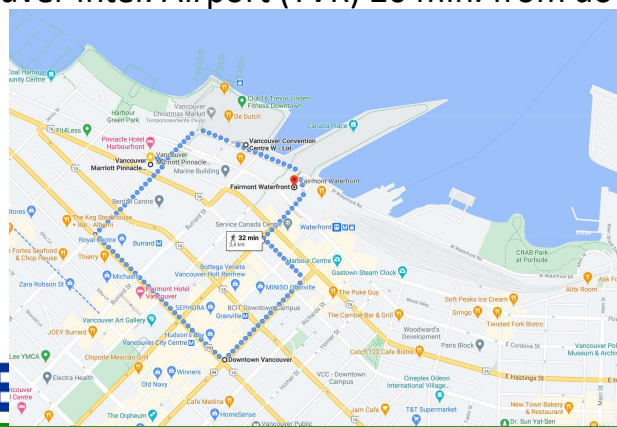
APPLICATIONS SOCIETY Research to Practice

2020

Live Vancouver!

[Click for 30 s Video](#)

- Hotels, convention center and downtown at hand
- Vancouver Inter. Airport (YVR) 20 min. from downtown

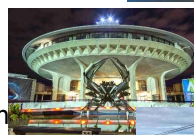


Linking Research to Practice

2020

Many Attractions in Vancouver

- Port of Vancouver (**largest port in Canada**)
- Cruise Ship Terminal (**4th largest in the world**)
- Stanley Park
- Capilano Suspension Bridge
- H.R. MacMillan Space Centre
- Aquarium
- Science World
- Grouse Mountain
- Vancouver Art Gallery
- VanDusen Botanical Garden
- and many others...



2020

Important Dates

- Jan. 15th, 2021 - Deadline for digest submissions
- Feb 12th, 2021 – Deadline for Tutorials
- **Mar 31st, 2021** – Deadline for **Special Sessions**
- April 2nd, 2021 – Tutorial decision notification
- May 1st, 2021 – Digest and Special Sessions decision
- Jun. 30th, 2021 - Final papers with copyright forms

For details visit our website:

<http://www.ieee-ecce.org/2021/>



2020

Organizing Committee

- General Chair: Giovanna Oriti
- Finance Chair: Shanelle Foster
- TPCs: Jean-Luc Schanen, Luca Zarri, Mark Scott, Gianmario Pellegrino, Michael Harke, Elisabetta Tedeschi
- Publication Chairs: Brian Welchko, Norma Anglani
- Local Chairs: Jennifer Vining, Jonathan Bird
 - Vancouver IEEE Chapter: Francisco Paz, Hamed Valipour, Franco Degioanni
- Exhibit Chairs: David Morrison, Grant Pitel
- Industry Liaison: Brian Zahnstecker
- Tutorial Chairs: Yue Cao, Katherine Kim
- Special Session Chairs: Xiaonan Lu , Fei Ding
- Publicity Chairs: Jiangbiao He, Zheyu Zhang
- Plenary Session Chair: Sara Roggia, Tom Kirk
- Student Activities Chair: Xiu Yao
- Electronic Media Chairs: Anant Singh, Sumit Chhabria
- Women in Engineering Chair: Lijun He
- Webmaster: Dong Cao
- Awards Chair: Christina DiMarino

*12 from industry,
17 from academia,
1 US gov. lab*




2020

See you in October 2021 - in Vancity!!



2020

- ECCE Vice Chairs: Dr. Greg Heins and Rukmi Dutta

Topic Chair Volunteers - hand in your business cards !!

We can not do like this way this year.



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ECCE 2021 volunteering - TC/Reviewer

2020

ECCE 2021 Volunteering options

3. Do you wish to serve as a technical chair (TC) and/or as a reviewer for ECCE 2021? *

- Yes
- No
- Maybe

4. Which role will you prefer? *

- Technical chair (TC)
- Reviewer
- Both

Microsoft Form



IEEE IAS EMC meeting 2020

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2020

IEEE IEMDC 2021 Update

IEEE IAS EMC

Ali Bazzi

November 7, 2020



2020

IEEE IEMDC 2021

- **May 17-20, 2021** in CT, USA
- Attendees can plan on visiting NYC or Boston: drive or take public transportation
- Venue: Mohegan Sun Resort
- **Current plans are to be in-person with social distancing up to 400 people.**
- Contingency plans:
 - Hybrid conference with in-person and online attendance
 - Fully online conference through Whova and Webex or Zoom (similar to ITEC)



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IEEE IEMDC 2021

2020

Map data ©2017 Google, United States, Terms

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IEEE

IAS/AE
IEEE INDUSTRY APPLICATIONS SOCIETY
Linking Research to Practice

IEEE IEMDC 2021 Mohegan Sun Resort

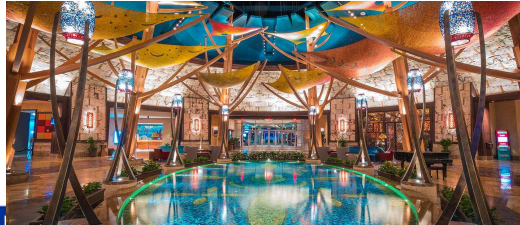
2020

IEEE

IAS/AE
IEEE INDUSTRY APPLICATIONS SOCIETY
Linking Research to Practice

IEEE IEMDC 2021 Mohegan Sun Resort

2020



IEEE IEMDC 2021 Mohegan Sun Resort

2020

- 40+ Restaurants
- Plenty of shopping
- Golf Course
- World-class casino
- Hotel and conference rooms can accommodate the whole event with over 400 people while social distancing
- Cancellation policy is very flexible: Free until later in January 2021, fee increases until April 2021
- Close to Hartford, NYC, Boston, New London, Mystic, and New Port
- Room rates are very attractive (\$159 per night + \$25 resort fee+ tax)



2020

IEEE IEMDC 2021

• Organizing Committee

- **General Chair:** Ali Bazzi (UConn, USA)
- **Program Co-Chairs:** Dong Jiang (HUST, China) and Bilal Akin (UT Dallas, USA)
- **Publications Chair:** Sung-Yeul Park (UConn, USA)
- **Finance Chair:** Weiqiang Chen (IMCORP, USA)
- **Plenary and Keynote Chair:** Mike Ahern (WPI, USA)
- **Awards Chair:** Pinjia Zhang (Tsinghua, China)
- **Educational and Outreach Chair:** Edvina Uzunovic (WPI, USA)
- **Exhibits Chair:** Alireza Fatemi, (General Motors, USA)
- **Tutorials Chair:** Jiangbiao He, (U. Kentucky, USA)



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2020

IEEE IEMDC 2021

- **Predicted Attendance:** 350 people
- **Budget for:** 300 people
 - 160 IEEE Society Members
 - 40 IEEE Non-members
 - 100 IEEE Student and Life Members
- **Tentative Registration Rates:**
 - IEEE Society Member (PELS, PES, IES, IAS): \$650 (onsite: \$700)
 - IEEE Member: \$700 (onsite: \$750)
 - IEEE Non-member: \$800 (onsite: \$850)
 - IEEE Life and Student Members: \$400



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2020

IEEE IEMDC 2021

- Budget submitted to IEEE:

Category	
REVENUE	
Registration	\$176,000
Exhibits	\$25,000
Guests and event tickets	\$0
Outside support	\$25,000
TOTAL INCOME	\$226,000

Expected Surplus >20%

Category	
EXPENSE	
Management services	\$40,000
Registration expense	\$10,000
Promotion	\$5,000
Publication (printing, USB...)	\$5,000
Local arrangements and A/V	\$20,000
Meals and social events	\$70,000
Admin (credit card fees, staff expenses)	\$10,000
Program committee expenses	\$5,000
Exhibit & Meeting Room Costs	\$20,000
TOTAL EXPENSES	\$185,000



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2020

IEEE IEMDC 2021

- Recent progress
 - Website active: www.iemdc-2021.com
 - CFP & announcement sent to various societies
 - MOU and LOA completed
 - Budget with IEEE approved
 - Registration platform: IEEE MCE
 - Paper management platform: epapers
 - Web hosting and website management: RNA Associates
 - Online platform: Whova



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2020

IEEE IEMDC 2021

• Transportation

- Airports:
 - Hartford/Springfield (BDL): ~60m, most US destinations, Dublin (Ireland), Edinburgh (Scotland), and more international destinations expected
 - Boston Logan (BOS): ~75m, most national and international destinations
 - New York JFK and LaGuardia: ~2h most
 - Providence Green (PVD): ~60m, most national and international destinations



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2020

IEEE IEMDC 2021

• Transportation

- To/From New London via rail:
 - Union Station in Hartford
 - Penn Station in NYC
 - Grand Central Station in NYC
 - Boston Amtrak Stations
- To/From New London via road:
 - I-91, I-95, I-84
 - Possible shuttles from airports



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**Technical Sponsored
Conferences 2022 (Asia) by Prof.Akatsu**



International Power Electronics Conference 2022

Integration of Power conversion, Electric machine, and Control


IPEC 2022 ECCE ASIA HIMEJI

May 15-19, 2022
Himeji City Culture and Convention Center


Flag ship conference by IEEJ-IAS.
Not only power electronics but also **Electric machine** and Control.
Hopefully full in person conference.



Access to Himeji



- From Tokyo: About three hours ten minutes **by Shinkansen "Nozomi"**
- From Kansai International Airport: Limousine about two hours ten minutes (12 roundtrips a day)
- From Osaka International Airport (Itami Airport): Limousine about 1 hour 20 minutes (8 roundtrips a day)
- From Kobe Airport: It is about one hour at JR transfer, new high speed from Port Liner "Sannomiya Station"



Technical Tracks (Tentative)

1. Static Power Converters
2. Power Devices, Passive Components and System Integrations
3. Modeling, Simulation, EMI and Reliability
4. **Electric Machines, Actuators and Sensors**
5. **Motor Control and Drives**
6. Motion Control and Robotics
7. Conversion Technologies for Renewable Energy and Energy Saving
8. Power Electronics Applied to Transmission, Smart Grid, DC Grid and Distribution Systems
9. **Power Electronics and Drives Applied to Railway Systems**
10. **Power Electronics and Drives Applied to Electric and Hybrid Vehicles**
11. Power Supply Technologies for Information and Communication Systems
12. **Power Electronics and Drives Applied to Home Appliance**
13. **Power Electronics and Drives for Industrial Applications**
14. Education in Power Electronics and Electrical Engineering
15. Other Related Topics



Important Dates

Deadline for Extended Summary :	October 12, 2021
Registration Open:	<i>See you in Himeji !</i> January 2022
Notification of Acceptance :	January 7, 2022
Submission of Final Manuscripts :	March 4, 2022
Deadline for Registration for paper submission :	March 4, 2022
Deadline for Early Bird Registration :	April 1, 2022
Deadline for Online Registration :	May 2, 2022



Specialties of Himeji



Koko-en garden



APPLICATIONS SOCIETY sake brewery

2020

Upcoming Conference

**WEMDCD 2021, Modena (Italy),
8-9 April 2021**

General Co-chairs: **Davide Barater** (Italy),
Giovanni Franceschini (Italy)



2020

WEMDCD 2021, Modena (Italy), 8-9 April 2021

WEMDCD 2021 is currently scheduled as a live, in-person event.
Contingency plan: virtual event



Enzo Ferrari Museum



Train Station

Venue: **Complesso San Geminiano**



WEMDCD 2021, Modena (Italy), 8-9 April 2021

2020



MUNER
MOTORVEHICLE
UNIVERSITY OF
EMILIA-ROMAGNA

WEMDCD is hosted by **UniMoRe** and **MUNER – The Motorvehicle University of Emilia-Romagna** - a consortium made by ten automotive companies and the four main universities of Emilia-Romagna, merged together to design the **6 Automotive Engineering Careers of the future.**
[\(https://motorvehicleuniversity.com/\)](https://motorvehicleuniversity.com/)








Conference Organization

2020

- **2 Day Conference**
 - 3 key-note speeches
 - 6 oral sessions
 - 2 poster sessions
- **Industrial Exhibition**
- **Sessions to cover :**
 - Electrical Machine Design and Modelling
 - Electrical Drives and their Control
 - Electrical Drives Reliability and Monitoring
 - Industrial and Transport Applications of Machines and Drives



Key Dates:

- Submission of papers opens:
7 September 2020
- Submission of papers closes:
31 December 2020
- Notification of acceptance:
14 February 2021
- Deadline for uploading final full papers and conference forms: 7 March 2021



2020

Committees

- **General Co-Chair**
 - Davide Barater, Italy
 - Giovanni Franceschini, Italy
- **International Steering Committee**
 - Babak Fahimi, USA
 - Gérard-André Capolino, France
 - Aldo Boglietti, Italy
 - Leila Parsa, USA
 - Franck Betin, France
 - Antonios Kladas, Greece
 - Chris Gerada, UK
 - Humberto Henao, France
 - Radu Bojoi, Italy
- **Publication Co-Chair**
 - Antonio Luque, Spain
 - Andres Nogueiras, Spain




2020

Committees

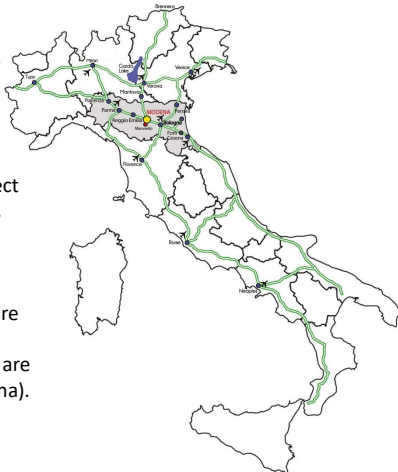
- **Technical Program Co-Chair**
 - Giampaolo Buticchi, China
 - Andrea Cavallini, Italy
 - Stefano Nuzzo, Italy
 - Savvas Papadopoulos, UK
- **Local Organisation Committee**
 - Emilio Lorenzani, Italy
 - Fabio Immovilli, Italy
 - Claudio Bianchini, Italy
 - Luigi Alberti, Italy
 - Cinzia Tedeschi, Italy
- **Publicity Co-Chairs**
 - Gérard-André Capolino, France
 - Jose Antonino-Daviu, Spain
 - Luca Zarri, Italy
 - Alberto Tassarolo, Italy
 - Cao Wen, UK
 - Carlo Cecati, Italy
 - Michael Galea, China
 - Francesco Cupertino, Italy
 - Fernando Briz, Spain
 - Gianmario Pellegrino, Italy
- **Treasurer**
 - Fabio Immovilli, Italy






2020

Travel

- **Bologna "G. Marconi" International Airport**
 - 30 minutes drive
 - Direct flights to: Paris, Dublin, London, Budapest, Brussels, Berlin, Frankfurt, Dusseldorf, Amsterdam and many other cities....
- **Excellent Train Links**
 - high speed train "Mediopadana" station has direct links to many Italian cities including Milan, Turin, Florence and to Rome in less than 3 hours
- **By Car**
 - Modena-Sud exit from the A1 motorway if you are arriving from the south (Bologna), or take the Modena-Nord exit from the A1 motorway if you are travelling from the North (either Milano or Verona).



2020

WEMDCD 2021, Modena (Italy), 8-9 April 2021



Our Campus





Our land




2020

8. Other Business



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Liaison Report from Motor sub committee in PES

2020

Yao Duan

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](#)

Co-SPONSORSHIP



Project #2: [IEEE P-1812](#)

"IEEE Std. 1812: IEEE Guide for Testing Permanent Magnet Machines"

- WG Chair: Yao Duan
- Trial-use guide published: 2015
- On-going revision since [August 2016](#)
- PAR extended until 2023



IEEE IAS EMC Meeting - Webex



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On-going Projects

2020

Project #3: [IEEE P-1415](#)

"IEEE Std. 1415: Induction Machinery Maintenance Testing and Failure Analysis"

- WG Chair: Pinjia Zhang
- Current Version: 2006
- PAR Approved: 2019
- On-going revision since Oct. 2019

Project #4: [IEEE P-620](#)

"IEEE Std. 1812: Guide for the Presentation of Thermal Limit Curves for Squirrel Cage Induction Machines"

- WG Chair: Yao Duan
- Current revision: 1996 (reconfirmed 2008)
- PARs submitted August, 2019
- 1st Ballot completed in May 2020, working on addressing comments
- Membership Recruiting is Going on
- Interested Members contact:
 - Yao Duan yao.duan@ieee.org
 - Emmanuel Agamloh eagamloh@ieee.org

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IEEE IAS EMC Meeting - Webex

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Upcoming Stds. Projects

2020

Project #5: [IEEE P-252](#)

IEEE Standard Test Procedure for Polyphase Induction Motors Having Liquid in the Magnetic Gap

- PARs submitted August 31, 2018
- Membership Recruiting is Going on
- Interested Members contact:
 - Yao Duan yao.duan@ieee.org
 - Emmanuel Agamloh eagamloh@ieee.org


Co-SPONSORSHIP



IEEE IAS EMC Meeting - Webex

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Sept. 2020



IEEE Power and Energy Society
Motor Sub-Committee



Call for Papers & Presentations for 2021 PES General Meeting on


Panel Session: Condition Monitoring, Application of IoT, and Advanced Topics in Electrical Machines and Drives


(Lijun He: lijun.he.2012@ieee.org and Sanjib. K. Panda: sanjib.kumar.panda@nus.edu.sg)

Super Session: Power Dense Heavy Rare-Earth Free Electric Motor Drive Systems for Transportation Electrification

(Mohammad Sedigh Toulabi: toulabi@ieee.org and Alberto Tassarolo: atassarolo@units.it)

- **For presentation only without papers:** A 10 page presentation in pdf or MS power point file format to the Session Chair.
- **For conference papers and presentation:** Submit papers (maximum length five (5) pages) to the conference paper submission site.
- **Deadline for presentations and papers submission is Nov. 10th, 2020.**

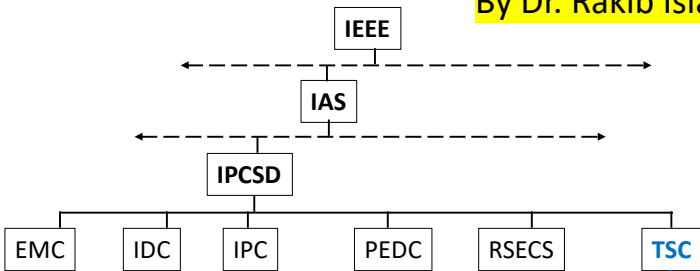



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2020

Transportation Systems Committee (TSC) is a sub-committee of the Industrial Power Conversion Systems Department (IPCSD) within the Industry Applications Society (IAS) of the Institute of Electrical and Electronic Engineers (IEEE).


By Dr. Rakib Islam




```

graph TD
    IEEE[IEEE] --- IAS[IAS]
    IAS --- IPCSD[IPCSD]
    IPCSD --- EMC[EMC]
    IPCSD --- IDC[IDC]
    IPCSD --- IPC[IPC]
    IPCSD --- PEDC[PEDC]
    IPCSD --- RSECS[RSECS]
    IPCSD --- TSC[TSC]
    
```

Transportation Systems Committee (TSC)





2020

Committee Officers – 2020-2021

Chair Dr. Bulent Sarioglu
University of Wisconsin-Madison

Vice Chair (Papers)
Dr. Mohammad Anwar
General Motors

Vice Chair (Conferences)
Dr. Mithat Kisacikoglu
University of Alabama

Secretary
Dr. Rakib Islam
Dura Automotive Systems

Past Chair
Dr. Mohammad Islam
Halla Mechatronics




2020

TSC Website

<https://site.ieee.org/ias-tcs/ias-transportation-systems-committee/>

IEEE IAS Transportation Systems Committee

About | Officers | Meetings | Pictures | Operating Guide | Publication Procedure | Recognition

About
Officers
Meetings
Pictures
Operating Guide
Publication Procedure

Recognition

Search IEEE IAS Transportation Systems Committee

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About

The Transportation Systems Committee (TSC) is a sub-committee of the Industrial Power Conversion Systems Department (IPCS) within the Industry Applications Society (IAS) of the Institute of Electrical and Electronic Engineers (IEEE).

The scope of the TSC is to emphasize the electrification of the transportation industry, including components, systems, and infrastructure, and encompassing all modes of transportation (e.g. road vehicles, aero-space vehicles, rail-road and water transports etc.) for people and goods and to treat all these within the scope of the IAS.

[Edit this entry.](#)






2020

Where are our Members from?

* Country	Subscribers
* -----	-----
* Australia	3
* Austria	1
* Canada	13
* China	5
* France	9
* Hong Kong	2
* Italy	5
* Japan	4
* Malaysia	1
* Netherlands	2
* Republic of Korea	8
* Singapore	1
* Spain	1
* United arab emirates	1
* United kingdom	5
* United states	165
*	
* Total number of users subscribed to the list:	226
* Total number of countries represented:	16
* Total number of local host users on the list:	0
*	

Most members from USA
 ➤ Need to encourage members from other Regions / Countries

2020

It is an exciting time for transportation electrification

Please join TSC

rakibulislam2000@gmail.com




Our Mission: Nagamori Foundation

By Mr.Nishimura

2020

Support research and development engineers in the technical fields of motor, power generator, actuator, and other related technologies.

Nagamori Awards:

- Commend those who have made innovative technological development in the **motor related technical fields**.
- Applicants must be **entry to mid-career researchers and engineers**.
- Will be given to approximately **six people**. The Grand Nagamori Award winner will receive a prize of **5 million yen**, and each of the Nagamori Award winners will receive **2 million yen**.



Application Guideline for the 7th Nagamori Awards

2020

Fields covered	Technical fields related to motors, actuators and power generators, and their control methods, application technologies, etc.
Applicant eligibility	Applicants must be entry to mid-career researchers or development engineers who have made an outstanding achievement in the fields covered by the Nagamori Awards. <u>Entry to mid-career – normally defined as no more than 30 years of research after obtaining the Bachelor's degree.</u>
Application method	Self-nomination or nomination from academic institution are accepted. A recommendation letter by an expert in the field covered by the Awards, or a senior member of your Academic Society, organization, research department, etc. must be submitted.

2020

Application Guideline for the 7th Nagamori Awards

Application period	November 01, 2020 - January 31, 2021 Applications must be postmarked on, or before, January 31, 2021
Application condition	Documents must be submitted in either English or Japanese.
Awards & prizes	Nagamori Awards will be given to approximately six people. The winner of The Grand Nagamori Award will be announced during the Awards ceremony. The Grand Nagamori Award winner will receive a prize of 5 million yen , and each of the Nagamori Award winners will receive 2 million yen .



*The 7th Nagamori Awards Ceremony will be held on September 5, 2021




2020

Winners of The 6th Nagamori Awards

Chris Gerada	Professor of Electrical Machines and Associate Pro-Vice-Chancellor, Department of Electrical and Electronic Engineering, Faculty of Engineering, The University of Nottingham
Yasuhisa Hirata	Professor, Department of Robotics, Graduate School of Engineering, Tohoku University
Alireza Khaligh	Professor, Department of Electrical and Computer Engineering & The Institute for Systems Research, University of Maryland at College Park
Shihua Li	Vice Dean, Professor, School of Automation, Southeast University
Annette Muetze	Professor, Vice Dean, Head of Institute, Electric Drives and Machines Institute, Department of Electric Engineering and Information Technology, Graz University of Technology
Jin Wang	Professor, Center for High Performance Power Electronics, The Ohio State University

2020

Necrology



Thomas A. Lipo
May 8, 2020



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2020

9. Motion to Adjourn



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