

# Transportation Systems Committee (TSC) Meeting

November 6, 2021, 9 am CST and 10 am EST  
Virtual Online Meeting

Dr. Bulent Sarlioglu  
University of Wisconsin-Madison  
*Chair*

# Agenda

## **A. IAS TSC Presentation (Committee Officers)**

1. Introduction
2. 2020-2021 Committee Officers
3. Committee Activities
4. Transactions Paper Review
5. Prize Papers, ECCE 2020
6. Conference Activities
7. Committee Update

## **B. Upcoming Conference Presentations**

1. ECCE 2022 (Mohammad Islam, Halla Mechatronics)
2. ITEC-EATS 2022 (Matthias Preindl, Colombia University)
3. APEC 2022 (Omer Onar, Oak Ridge National Laboratory)

## **C. Nagamori Awards (Mr. Yasushi Nishimura, Secretary General, Nagamori Foundation)**

# Committee Officers – 2020-2021

## Chair

Dr. Bulent Sarlioglu  
University of Wisconsin-Madison

## Vice Chair (Papers)

Dr. Mohammad Anwar  
General Motors

## Vice Chair (Conferences)

Dr. Mithat Kisacikoglu  
The University of Alabama

## Secretary

Dr. Rakib Islam  
Nexteer Automotive

## Past Chair

Dr. Mohammad Islam  
Halla Mechatronics

Rakib Islam  
Nexteer Automotive  
*Secretary*

# Committee Updates

- IEEE IAS TSC has an active website at - <http://sites.ieee.org/ias-tcs/>
- Total members as of 2021 is > 226.
  - Some members e-mails need to be updated as a result of the changes in their affiliation.
  - Please send your updated information's to [rakibulislam2000@gmail.com](mailto:rakibulislam2000@gmail.com)
    - Include First & Last Name, Affiliation and e-mail address when sending updated details
- If you want to be a member, please send your contact information to Dr. Rakib Islam at [rakibulislam2000@gmail.com](mailto:rakibulislam2000@gmail.com)
- We seek volunteer to be the webmaster of the TSC website.

# Where are our Members from?

```
*
*
* Country                Subscribers
* -----                -
* Australia              3
* Austria                1
* Canada                 12
* China                  5
* France                 9
* Hong Kong              1
* Italy                   6
* Japan                  4
* Malaysia               1
* Netherlands            2
* Republic of Korea      8
* Singapore              1
* Spain                  1
* United Arab Emirates   1
* United Kingdom         5
* United States          166
*
*
* 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
*
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- Most members from USA
  - Need to encourage members from other Regions / Countries

Mohammad N Anwar  
General Motors  
*Vice Chair - Papers*

# Transaction Paper Review

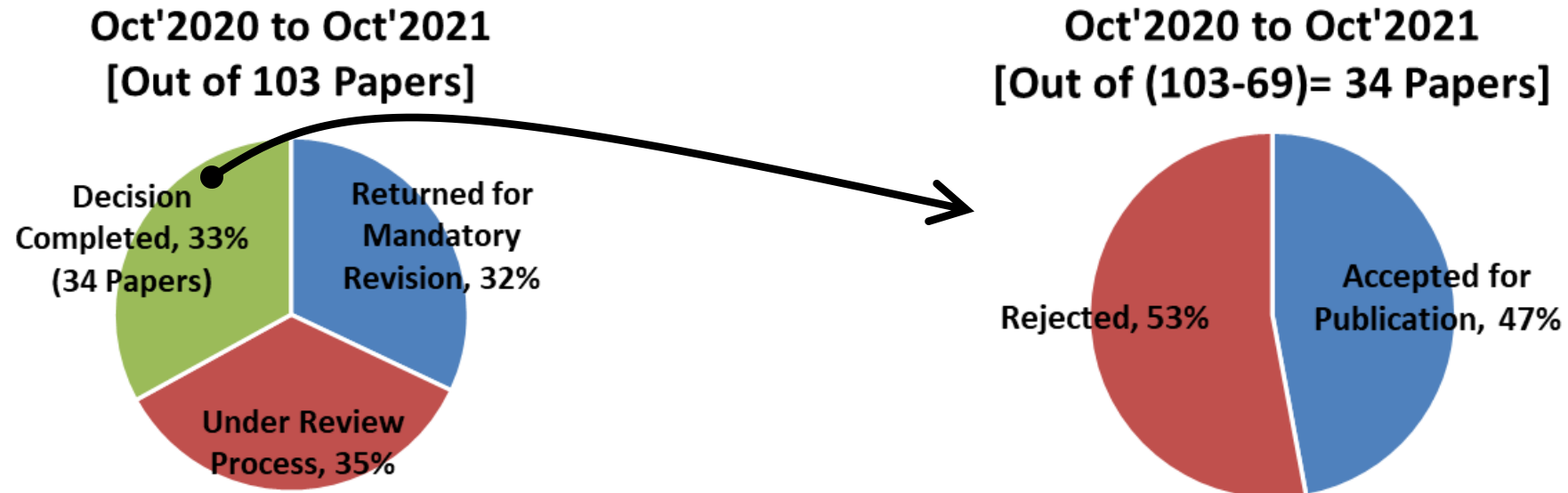
- TSC started reviewing papers for IA transactions/magazines since 2012
- **TCPRC**: Dr. Mohammad Anwar– Vice Chair (Papers)
- **Associate Editors**
  1. Dr. Yingjie Li, Hyperloop One, CA
  2. Dr. Veda Galigekere, Oak Ridge National Lab, TN
  3. Dr. Subrata Saha, Aisin Corporation, Japan
  4. Dr. Raja Ramakrishnan, Halla Mechatronics, Bay City, MI
  5. Dr. Rakib Islam, Nexteer Automotive, Auburn Hills, MI
  6. Dr. Mithat Kisacikoglu, University of Alabama, Tuscaloosa, AL
  7. Dr. Mohamed Badawy, San José State University, San Jose, CA
  8. Dr. Jiangbiao He, University of Kentucky, US
  9. Dr. Jason Pries, Apple, CA
  10. Dr. Bilal Akin, University of Texas, Dallas, TX
- Reviewers/members database is evolving
- Term is two years, but it can be extended

***We appreciate our Associate Editors for their kind voluntary work***



# Transaction Paper Review: Manuscript Status

Manuscript Status	Jan' 2019 to Jan' 2020	Jan' 2020 to Oct' 2020	Oct' 2020 to Oct' 2021
Manuscripts Submitted	48	95	103

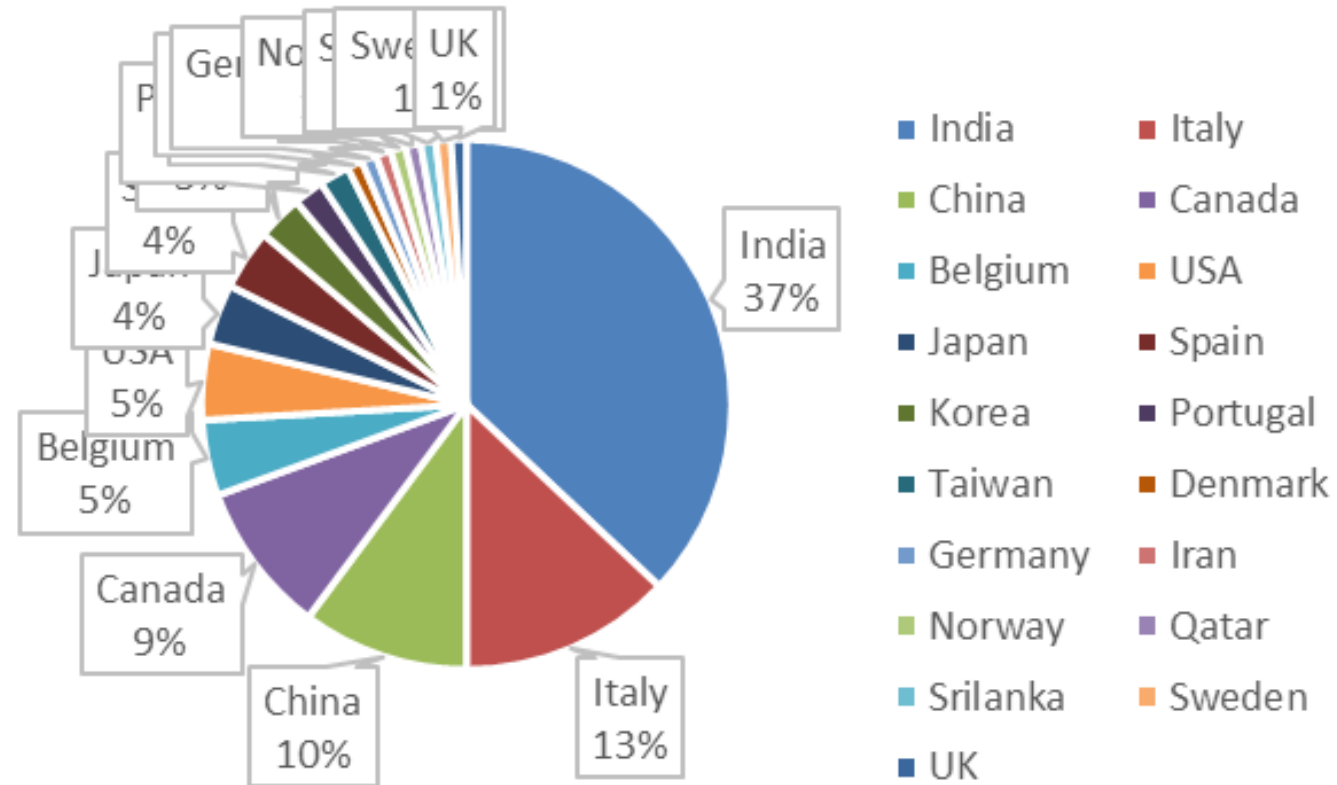


**Note: Number of manuscripts submitted increased**

**Note: AEs and Reviewers are maintaining a quick turnaround**

# Transaction Paper Review: Manuscript Status

## Country Wise Distribution:



Oct'2020 to Oct'2021

# TSC Prize Paper Award - 2021

## Award Committee

Chair – Dr. Mohammad Anwar

## Committee Members:

Name	Affiliation	Email
Dr. Ramakrishnan Raja	Chief Scientist, Motor Drive Controls, Halla Mechatronics	ramakrishnan.raja@halla.com
Dr. Rashmi Prasad	Staff Researcher, Electric Drives & Power Electronics Systems, General Motors	rashmi.prasad@gm.com
Dr. Rakib Islam	Staff Engineer, Nexteer Automotive, Auburn Hills	rakibulislam2000@gmail.com
Dr. Mohamed Badawy	Assistant Professor, Electrical Engineering, San José State University	mohamed.badawy@sjsu.edu
Dr. Wencong Su	Associate Professor, Electrical and Computer Engineering, University of Michigan	wencong@umich.edu

The award committee evaluated 9 top ranked digests from ECCE 2020 Track D - Transportation System Applications.

# TSC Prize Paper Award - 2021

## Award Winners: First Prize

### Optimum PWM Switching Mode Selection of Dual Inverter-fed Open Winding IPMSM Drive System for High-power Premium Class EV

Hiroaki Matsumori  
Electrical and mechanical engineering  
department  
Nagoya Institute of Technology  
Nagoya, Japan  
matsumori.hiroaki@nitech.ac.jp

Yuki Makimura  
Electrical and mechanical engineering  
department  
Nagoya Institute of Technology  
Nagoya, Japan

Shoshi Morisita  
Electrical and mechanical engineering  
department  
Nagoya Institute of Technology  
Nagoya, Japan

Yuto Maeda  
Electrical and mechanical engineering  
department  
Nagoya Institute of Technology  
Nagoya, Japan

Takashi Kosaka  
Electrical and mechanical engineering  
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Nagoya Institute of Technology  
Nagoya, Japan  
kosaka@nitech.ac.jp

Nobuyuki Matsui  
Electrical and mechanical engineering  
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Nagoya, Japan

Naoto Saito  
Aisin-AW co, Ltd.  
Nagoya, Japan

Yoshinobu Ito  
Aisin-AW co, Ltd.  
Nagoya, Japan

Subrata Saha  
Aisin-AW co, Ltd.  
Nagoya, Japan  
I29505\_SAHA@aisin-aw.co.jp

# TSC Prize Paper Award - 2021

**Award Winners: Second Prize**

## Discrete-Time Torque Control of High-Speed SPM Machine For Aircraft Electric Propulsion

Hao Zeng   James Swanke   Dheeraj Bobba   Bulent Sarlioglu   Thomas M. Jahns  
Wisconsin Electric Machines & Power Electronics Consortium (WEMPEC)  
University of Wisconsin-Madison  
Madison, USA  
hzeng26@wisc.edu, sarlioglu@wisc.edu, jahns@engr.wisc.edu

# TSC Prize Paper Award - 2021

## Award Winners: Third Prize [Shared]

### An Inductive Power Transfer System using Soft-Switched AC/AC Active-Clamped Half-Bridge Converter with Predictive Dead-Beat Grid Current Control

Phuoc Sang Huynh, *Student Member, IEEE*, Deepak Ronanki, *Senior Member, IEEE*,  
and Sheldon S. Williamson, *Fellow, IEEE*

Advanced Storage Systems and Electric Transportation (ASSET) Laboratory  
Smart Transportation Electrification and Energy Research (STEER) Group  
Department of Electrical, Computer, and Software Engineering  
Faculty of Engineering and Applied Science,  
Ontario Tech University, Oshawa, ON L1G 0C5, Canada

Email: phuoc.huynh@ontariotechu.net, dronanki@ieee.org, and sheldon.williamson@uoit.ca

**Third Prize (Paper-1)**

### Control of SiC Based Integrated DC-DC Powertrain Charger for Electric Vehicles

**Third Prize (Paper-2)**

Saeed Anwar and Daniel Costinett  
Department of Electrical Engineering and Computer Science  
The University of Tennessee, Knoxville  
Knoxville, TN, USA  
sanwar@vols.utk.edu

Subhajyoti Mukherjee and Shajjad Chowdhury  
Power Electronics and Electrical Machinery Group  
Oak Ridge National Laboratory  
Oak Ridge, TN, USA

Mithat John Kisacikoglu  
The University of Alabama  
*Vice Chair - Conferences*

# ECCE 2021 – Transportation Electrification Applications

IAS TSC Vice chair Mithat Kisacikoglu served as a vice-chair for this track.

Topic Chairs selected from our members based on their voluntary interest:

- **Hassan Eldeeb**, BorgWarner Inc.
- **Md Sariful Islam**, Halla Mechatronics
- **Gabriele Rizzoli**, University of Bologna
- **Subrata Saha**, Aisin AW Co. Ltd. Japan
- **Zhe Zhang**, Eaton Research Lab



	Oral	Poster	Withdrawn	Rejected	Total	Acceptance Rate
ECCE 2018	25	48	26		99	73.7%
ECCE 2019	25	32	7	23	87	65.5%
ECCE 2020	34	33	10	37	114	58.8%
ECCE 2021	44		3	21	68	64.7%



# ECCE 2021 – Transportation Electrification Applications

## Session topics:

- Electric drivetrains
- Batteries management systems for transportation
- Charging techniques for transportation
- Transportation electrification 1-3
- Electric vehicle charging
- EV battery management 1-2



# ITEC Global Series

- **ITEC North America (60% PELS, 20% IAS, 20% PES)**
  - ITEC'12: June 18-20, 2012, Dearborn, MI
  - ITEC'13: June 16-19, 2013, Dearborn, MI
  - ITEC'14: June 15-18, 2014, Dearborn, MI
  - ITEC'15: June 14-17, 2015, Dearborn, MI
  - ITEC'16: June 27-29, 2016, Dearborn, MI
  - ITEC'17: June 22-24, 2017, Navy Pier, Chicago, IL
  - ITEC'18: June 13-15, 2018, Long Beach, CA
  - ITEC'19: June 19-21, 2019, Metro Detroit, MI
  - ITEC'20: June 19-21, 2020, Virtual
  - ITEC'21: June 23-25, 2021, Virtual
  - **ITEC+'22: June 15-17, Anaheim, CA, USA**
- **ITEC Asia & Pacific (36% IAS, 12% PELS, 12% PES, 40% Others) – Led by IAS**
  - Aug. 31-Sept. 3, 2014, Beijing, China
  - June 1-4, 2016, Busan, Korea
  - August 2-5, 2017, Harbin, China
  - June 6-9, 2018, BITEC, Bangkok, Thailand
  - May 8-11, 2019, Seogwipo-si, Jeju, Korea
  - 2020: Cancelled.
  - 2021: Cancelled
  - **2022: Zhejiang University, China**
- **ITEC India & Middle East – Led by IAS in Partnership with SAEINDIA**
  - August 27 – 29, 2015, Chennai, India
  - December 13-15, 2017, Pune, India
  - December 17-19, 2019, Bangalore, India
  - **December 16-18, 2021: Gurugram, India**
- **ESARS-ITEC Europe**
  - November 2-4, 2016, Toulouse, France
  - November 7-9, 2018, Nottingham, UK
  - 2020 conference is cancelled

# Other Future Conferences

TSC will be involved in various conferences in 2022 at various capacities.

- **APEC 2022**, March 20-24, Houston, TX [<http://apec-conf.org/>]
- **ECCE 2022**, October 9-13, Detroit, MI [<https://www.ieee-ecce.org/2022/>]
- **ECCE Asia 2022**, May 15-19, Himeji, Japan [<https://www.ipec2022.org/>]
- **ICEM 2022**, September 5-8, Valencia, Spain [<https://icem.cc/>]

Mohammad Islam  
Halla Mechatronics  
*ECCE 2022*  
*Technical Program Co-chair*

Matthias Preindl  
Columbia University  
*ITEC 2022*  
*General Chair*

Omer Onar  
Oak Ridge National Laboratory  
*APEC 2022*  
*Program Chair*

**Bulent Sarlioglu**  
**University of Wisconsin-Madison**  
*Chair*

# Secretary Nomination

IAS TSC nominates

**Dr. JiangBiao He (University of Kentucky)** as our new Secretary

## Appointments

Jan 2019 – Present: Assistant Professor, University of Kentucky

Oct 2015 – Dec 2018: Lead Engineer(2018) / Research Engineer (2015-2018), GE Global Research, New York

Dec 2014 – Sept 2015: Hardware Development Engineer, Rockwell Automation, Wisconsin

Jun 2013 – Dec 2013: Research Intern, Eaton Global Research & Technology, Wisconsin

Sept 2010 – Aug 2015: Research Assistant, Marquette University, Wisconsin

## Education

Ph.D., Marquette University, Electrical Engineering, 2015

## Research Interests

Power Electronics and Electric Motor Drives

Health Monitoring and Fault-Tolerant Power Conversion Systems

Transportation Electrifications (Electric Vehicles, Aircraft, etc.)

Renewable Energy Integration and Smart Grid

**Dr. He has been serving as an Associate Editor for IAS TSC for the past years.**



Yasushi Nishimura  
*Nagamori Foundation*  
*Secretary General*

**Bulent Sarlioglu**  
**University of Wisconsin-Madison**  
*Chair*

# New Committee Officers for 2021-2022

**Chair** Dr. Mohammad Anwar  
General Motors

**Vice Chair (Papers)**  
Dr. Mithat Kisacikoglu  
The University of Alabama

**Vice Chair (Conferences)**  
Dr. Rakib Islam  
Nexteer Automotive

**Secretary**  
TBD

**Past Chair**  
Dr. Bulent Sarlioglu  
University of Wisconsin-Madison

**1. If you have any changes in your contact information and/or affiliations**

**2. If you want to become a session chair or topic chair for ECCE 2022 please text on the chat box, or if you are a new member please email your name and contact info to:**

**rakibulislam2000@gmail.com**

**It is an exciting time for  
transportation electrification**

**Please join TSC**

**rakibulislam2000@gmail.com**