



IEEE Industry Applications Society Renewable and Sustainable Energy Conversion Systems Committee

Annual Meeting – Baltimore, MD
October 1, 2019

Chair – Yilmaz Sozer, USA

Vice Chair, TPC – Adel Nasiri, USA

Vice Chair – Akshay Kumar Rathore, Canada

Secretary – Ke Ma, China

Agenda

- Approval of 2018 Meeting Minutes
- Approval of IAS RES Committee Operating Guide
- TCPRC Report – Adel Nasiri
- ECCE Activities 2019 – Ke Ma, Yilmaz Sozer
- IAS-RES Committee Co-Sponsored Conferences – Akshay Rathore
- RES Prize Paper Awards – Yilmaz Sozer
- IEEE Standards Coordinating Committee 21 – Adel Nasiri
- Nominations for IAS RES Executive Committee Officers
- ECCE 2020

Meeting Minutes

- Approval of the 2018 Annual Meeting Minutes
- Committee Roster Circulation, New Members

IAS RES Operating Guide



IEEE Industry Applications Society Renewable and Sustainable Energy Conversion Systems Committee Operating Guide

SECTION I. PURPOSE

A. Foreword

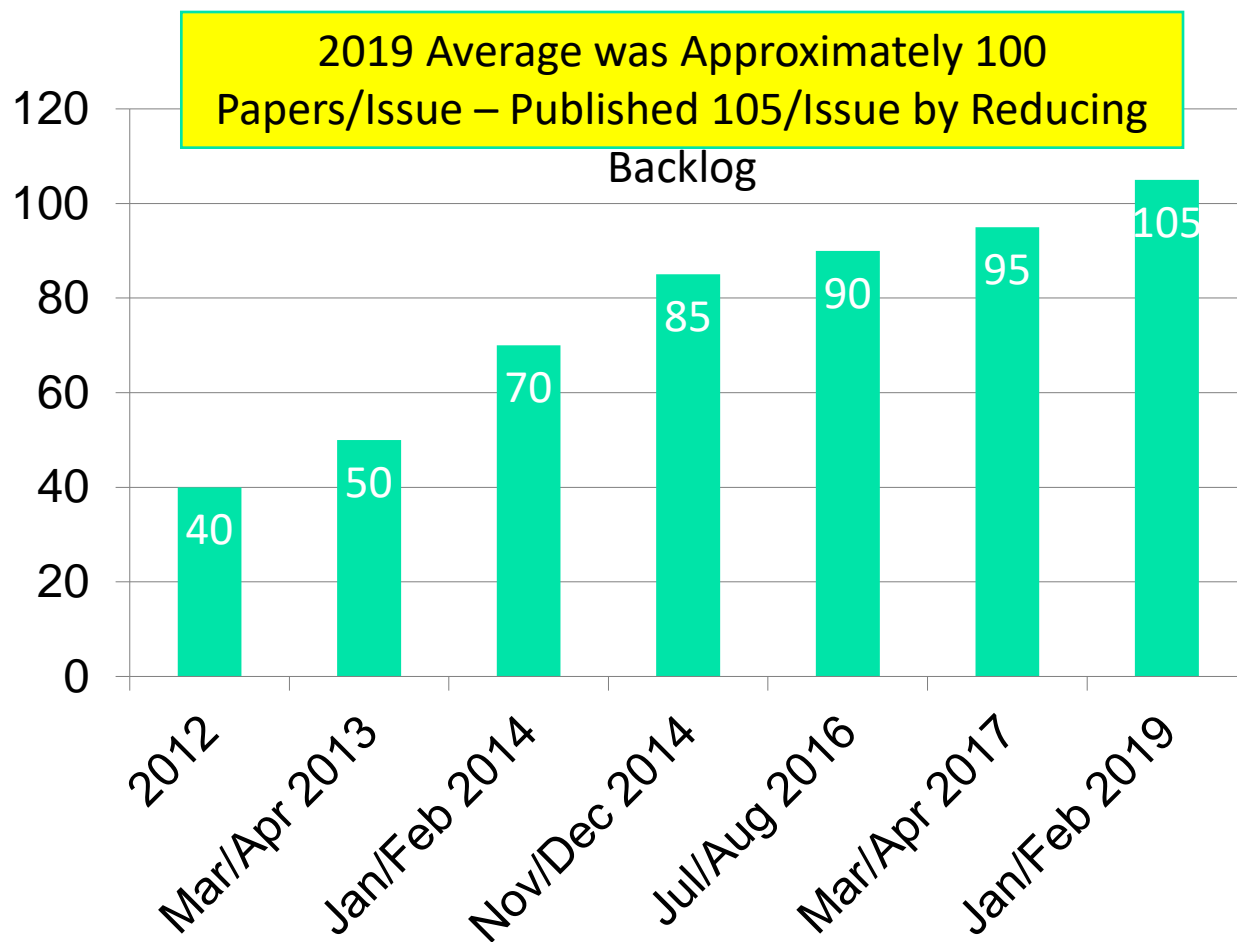
The Renewable and Sustainable Energy Conversion Systems Committee is a committee of the Industrial Applications Society (IAS) of the Institute of Electrical and Electronic Engineers (IEEE).

This Operating Guide is designed to assist the members in effectively administering the activities of this committee. All of the statements of policy contained herein have been approved by the Executive Subcommittee and can be changed only with the approval of the Executive Subcommittee.

B. Scope

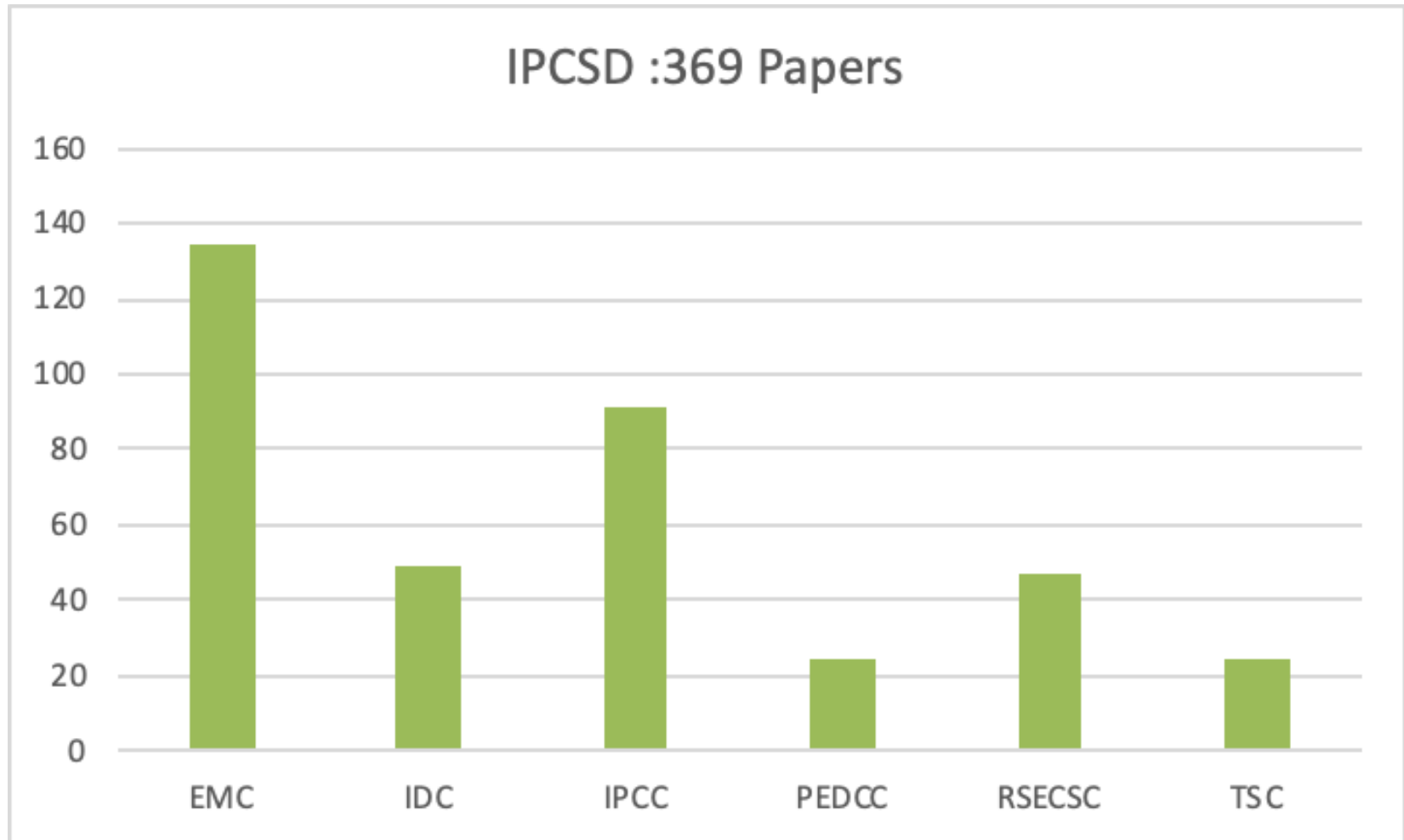
The Renewable and Sustainable Energy Conversion Systems (RES) Committee is responsible for all matters within the scope of the IAS in which the emphasis or dominant factor specifically relates to the design, analysis, manufacture and use of electric devices and systems for renewable and sustainable energy conversion industrial applications. Topics include, but are not limited to, electric generators and drives for wind turbines, ocean/marine and other renewable and sustainable energy harvesting systems, photo-voltaic, energy storage and micro-grid devices and associated electrical energy conversion systems.

Publications Chair Report Jan 2018 – Sept 2019

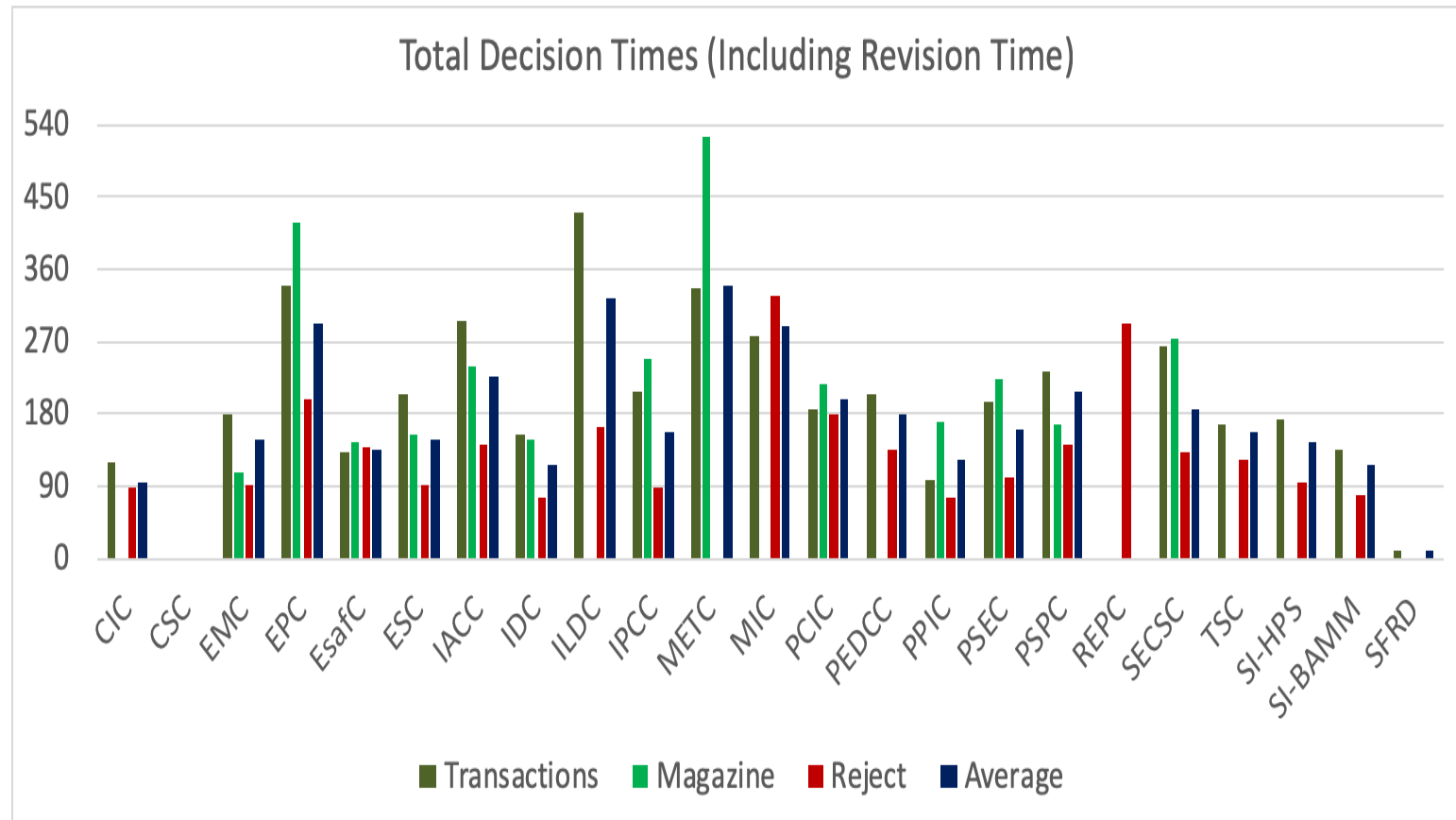


Number of Paper Submissions by Committees

IAS Industrial Power Conversion Systems Department



Days from Original Submission to Final Decision – Past 12 Months



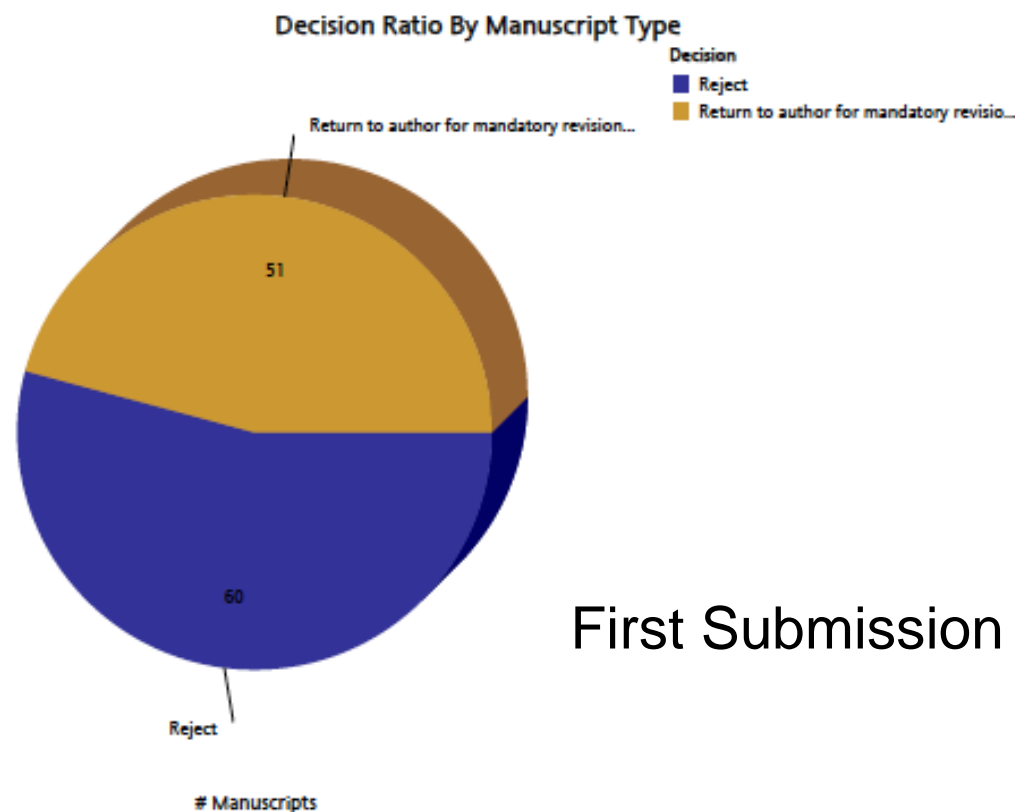
Upcoming Special Issues of IEEE Transactions on Industry Applications

- Nov/Dec 2019, Part II – 44 Papers Scheduled for Special Issue on High Performance Power Electronic Converters: Topologies, Control, and Devices
- Nov/Dec 2019, Part II – 34 Papers Scheduled for Special Issue on Building Automation, Metering and Microgrids for Energy Efficiency in Industrial and Commercial Power Systems
- May/June 2020 –Special Issue on Security, Privacy, Trust, and Access Control in Industrial Applications
- Nov/Dec 2020 – Special Issue on Advanced Approaches and Applications for Electric Vehicle Charging Demand Management

IAS Transactions and Magazine Decision Ratio

Submission to Renewable and Sustainable Energy Conversion Systems Committee

Jan 2018-Sep 2019

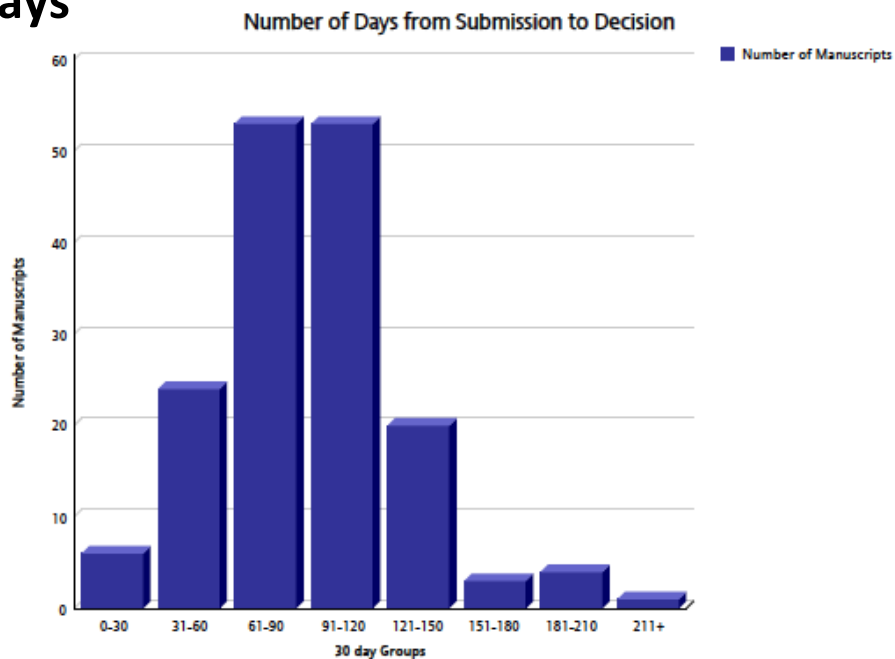


Decision	# Manuscripts	Percentage
Reject	60	54.05%
Return to author for mandatory revisions (to address reviewer comments)	51	45.95%
Total:	111	100.00%

First Submission to Decision

Publications Chair Report Jan 2018 – Sept 2019

- Paper submission to Renewable and Sustainable Energy Conversion Systems Committee:
 - **Total 164 (Jan 2018-Sep 2019);**
- Acceptance Rate (Jan 2018-Sep 2019):
 - **16.5% Transactions, 2% Magazine**
- **Average First Decision Time: 104 days**



IAS Transactions and Magazine Decision Ratio

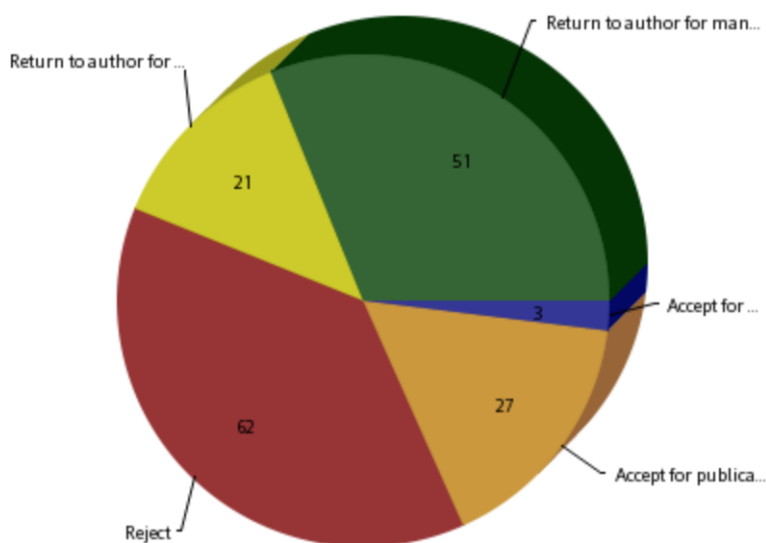
Submission to Renewable and Sustainable Energy Conversion Systems Committee

Jan 2018-Sep 2019

Decision Ratio By Manuscript Type

Decision

- Accept for publication in Magazine
- Accept for publication in Transactions
- Reject
- Return to author for mandatory revisions (r...
- Return to author for mandatory revisions (t...



Decision	# Manuscripts	Percentage
Accept for publication in Magazine	3	1.83%
Accept for publication in Transactions	27	16.46%
Reject	62	37.80%
Return to author for mandatory revisions (rto address reviewer comments)	21	12.80%
Return to author for mandatory revisions (to address reviewer comments)	51	31.10%
Total:	164	100.00%

Thanks to Our Outgoing Associate Editors

- Paul Barendse (South Africa) *
- Behrooz Mirafzal (USA) *
- Woojin Choi (USA) *
- Norma Anglani (Italy) *
- Nathan Weise (USA) *

Thanks to Associate Editors

- Mohamed Badawy (USA), since 2017
- Ke Ma (China), since 2017
- Dinesh Kumar (Denmark) , since 2017
- Afshin Izadian (USA) , since 2017
- Mo Rashidi (USA), since 2019
- Saban Ozdemir (Turkey), since 2019
- Necmi Altin (Turkey), since 2019
- Ahmed Elasser (USA), since 2019

Seeking interested Associate Editors from committee

Submitting Papers for IAS Transactions

- The IAS RES Committee welcomes for review and possible publication in IEEE Transactions on IAS papers that have been presented within the last year at an IAS technically sponsored conference, such as ECCE, IAS Annual Meeting, APEC, ICEM.
- In order to submit a paper, please email the following information to the Technical Paper Review Chair (TPC) with the following information: (1) corresponding author's first and last name; (2) corresponding author's e-mail address; (3) manuscript title; (4) conference name; (5) year of presentation; together with a PDF of your Conference paper, as it was published in the Conference proceedings.

Changes for Submission to IEEE IAS Trans. and Magazine

- Conference papers recommended for publication **MUST BE REVISED** before publication in IEEE Transactions on Industry Applications or IEEE Industry Applications Magazine.
- There is no hard metric on how much revision is required. Instead, authors must be comfortable that they are compliant with the long-standing rule that they are not seeking multiple publication of a paper. (Unlike other Societies, we are not requiring a specific amount of change in the revision).
- Reviewers and the Associate Editor are also expected to be comfortable that the paper offers information not included in the earlier conference version.
- The revised version **MUST** include a reference citation pointing to the earlier conference version.

Changes for Submission to IEEE IAS Trans. and Magazine

- The authors may consider **changing the title, adding references, adding or simplifying illustrations, and adding or simplifying text** in the body of the paper.
- The authors are asked to provide a **BRIEF description** (± 200 words) of the revisions in the cover letter field in Scholar 1.
- The policy change has been adopted and we are obligated to proceed with implementation in IAS.
- Conference papers that are approved for publication without revision will be returned to the responsible technical committees for revision.
- Exceptions to the 'presentation first' policy are only made for 'special issues' of IAS Transactions as authorized by the IAS Executive Board.

ECCE 2019 Technical Program

- We have total of 1779 digest submissions very similar to last year (1788)
- The number of Vice Chairs per track was set based on the on the number of digests
- Number of digests per Topic Chair (TC) limited to 10
- There were 22 vice chairs and 184 topic chairs serving for 12 Tracks
- The program includes 1069 technical papers presented in 15 parallel oral sessions and 28 poster sessions. Additionally, the program also includes 18 presentation-only special sessions that are scheduled throughout the week.

2019 ECCE Paper Review

ECCE level

Admin

4 TPCs
6 Associate TPCs

Chairs

22 x Vice Chairs (VCs)
(1/2 from IAS + 1/2 from PELS)

184 x Topic Chairs
(TCs)

Reviewers

~10118 reviewer
invitations

~7725 submitted reviews

Reviewers

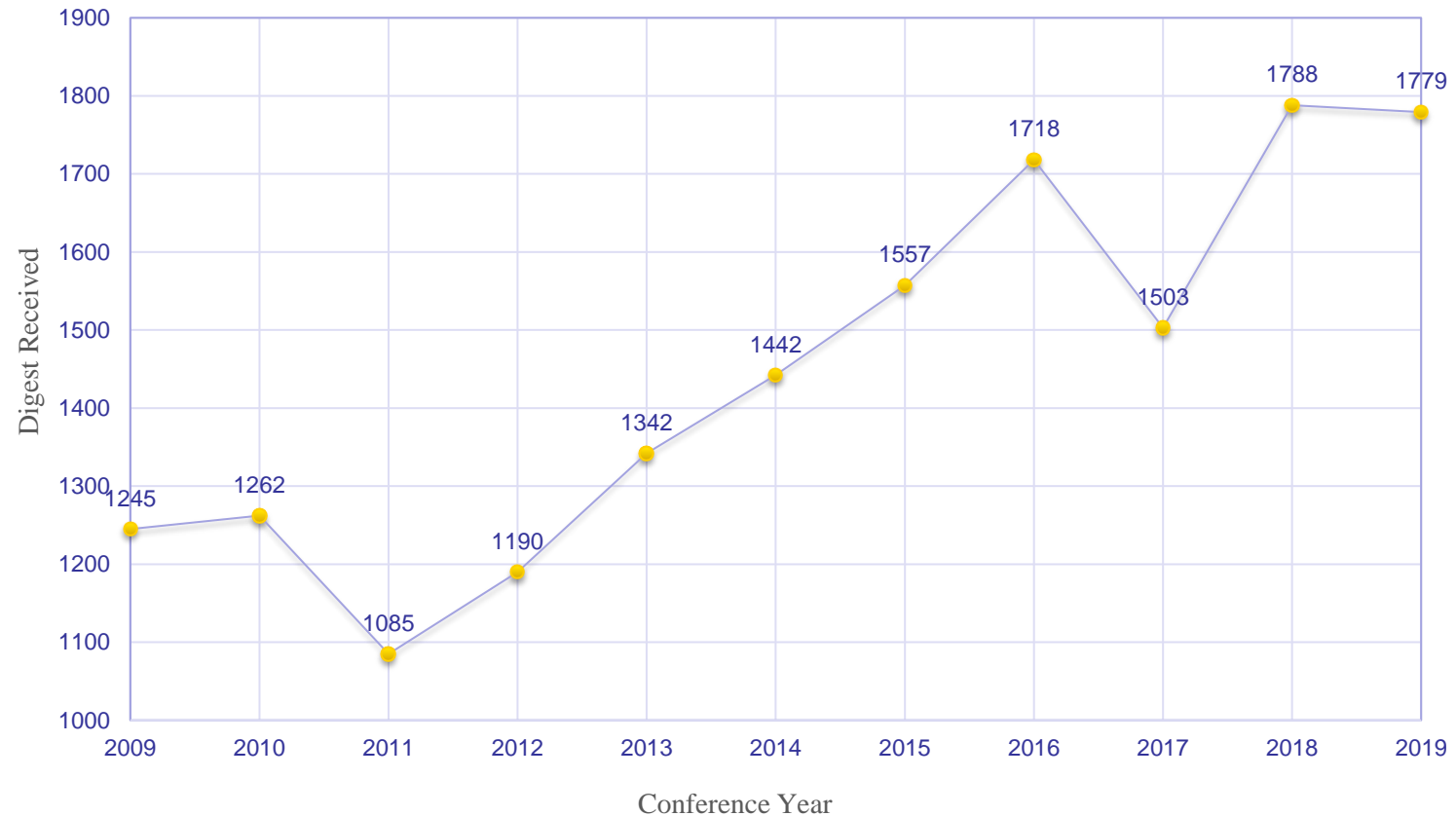
Reviewers

22 Vice Chairs PELS and IAS



Track Name	Track	Vice Chair	Vice Chair	Vice Chair
Renewable and Sustainable Energy Applications	A	Navid Zargari	Ke Ma	
Smart Grid and Utility Applications	B	Marcelo Heldwein	Xiongfei Wang	Mahesh Krishnamurthy
Datacenters and Telecom Applications	C	Katherine Kim		
Transportation Electrification Applications	D	Mohammad Anwar		
Power Converter Topologies	E	Gerry Moschopoulos	Luca Solero	Grant Pitel
Controls, Modelling and Optimization of Converters	F	Khurram Afridi	Xiaonan Lu	Henry Chung
Electrical Machines	G	Akira Chiba	Greg Heins	Julia Zhang
Electric Drives	H	Luca Zarri	Antonio J. Marques Cardoso	
Power Semiconductor Devices, Passive Components, Packaging, Integration, and Materials	I	Jin Wang	Ruxi Wang	
Energy Efficiency Systems and Applications	J	Katherine Kim		
Emerging Applications	K	Xiong Du		
Conflict of Interest	M	Mircea Popescu		

Digest Submissions



ECCE 2019 Contributions –Track A

- Track A (Renewable and Sustainable Energy Applications) organized by the **IEEE IAS- RSECS Committee**
- IAS-RES Committee provided 1 TPC Chair (Yilmaz Sozer) and 1 Vice Chair (Ke Ma) to work with another Vice Chair (Navid Zargari) and 12 Topic Chairs:

Subtrack	Topics	Papers submitted	Topic chairs
A1	Wind	27	Akanksha Singh, Qiang Wei Mehdi Narimani
A2	Solar PV	51	Ahmed Elasser, Yongheng Yang Sixing Du, Mohammad Shadmand
A3	Ocean and Geothermal	5	Mehdi Narimani
A4	Energy Storage	35	Fatih Cingoz, Wasi Uddin Alex De-Abreu Garcia
A5	Fuel Cells	4	Fatih Cingoz
A99	Other Renewable and Sustainable Topics	22	Dinesh Kumar Zhong Cheng

ECCE 2019 Contributions

- ◆ 144 papers received (40 % increase over 2018), 45 accepted for oral presentation and 47 poster presentation (Track A)
- ◆ 11 Oral Sessions:
 - 2 sessions on Wind
 - 3 sessions on Solar PV Related Topics
 - 1 sessions on Wave and Ocean Energy Systems
 - 3 sessions on Energy Storage Related Topics
 - 2 sessions on Topics in Renewable and Alternative Energy
- ◆ 3 Poster Sessions :
 - 1 session on Alternative Energy Systems and Grid Connection
 - 1 session on Energy Storage Systems
 - 1 session on Solar Energy Systems
- ◆ Special thanks to our topic and session chairs!

ECCE 2019 Contributions – Track B

- Track B (Smart Grid & Utility Applications) organized by the IEEE IAS-RES Committee and the IEEE PELS.
247 papers in 10 sub-tracks were managed by three vice chairs (Marcelo Heldwein, Mahesh Krishnamurthy, Xiongfei Wang) and 22 Topic Chairs
- 145 papers were accepted for oral and poster presentations

Sub-track	Title	No. of submitted Papers	Topic Chairs
B01	Renewable Energy Grid Integration	66	Jiabing Hu, Yi Tang, Lexuan Meng, Alberto Pigazo, Pradyumn Chaturvedi
B02	Distributed Resources and Microgrids	46	Brandon Grainger, Yunjie Gu, Brian Johnson, Dong Dong
B03	HVDC and FACTS	24	Fei Gao, Morgan Kiani, Morgan Kiani, Mark J Scott
B04	DC Distribution and DC Microgrids	32	Mohammad Khodayar, Srdjan Lukic, Fei Shang

ECCE 2019 Contributions

Sub Track	Title	No. of Submitted Papers	Topic Chairs
B05	AC Distribution and AC Microgrids	23	Hua Geng, Zhiyi Li, Wei Tian
B06	Electronic transformer and other grid devices	12	Pourya Shamsi
B07	V2G and G2V	7	Montie Vitorino
B08	Stability and power quality	24	Cassiano Rech
B09	Smart buildings and appliances	9	Montie Vitorino
B99	Other topics	12	Thiago Batista Soeiro

APEC 2019 Contributions

- Track 10 Renewable Energy Systems is organized by the IEEE IAS- RES Committee and the IEEE PELS.
- 109 Papers received.
- 68 accepted (oral and poster)
- Managed by four track chairs (Akshay Rathore (IAS- RSECS), Fei Gao, Khurram Afridi and Haoyu Wang).



APEC 2020 Contributions

- Track 10 Renewable Energy Systems is organized by the IEEE IAS- RES Committee and the IEEE PELS.
- 161 Papers received.
- Review process is ongoing.



PEDES (India) 2018 Contributions

- IAS, PELS, IES and PES sponsored biennial conference in India.
- Conference of importance in R10.
- Conference held in Chennai, India from 18 to 21 December 2018.
- Venue: IIT Madras
- 55% acceptance rate.
- Akshay Rathore (IAS- RSECS) served as one of the Technical Program Chairs.

Geography	Digests Submitted	Scheduled for Presentation
India	801	418
USA	27	19
Rest of Asia	34	24
Europe	18	7
Australia	14	14
Africa	9	1
Total	903	483

Scheduled Papers from

Academia (93%) 451
Industry (7%) 32

India (87%) 418
Rest (13%) 65

Oral 343
Poster 140

PEDES (India) 2020...

- Conference will be held in Jaipur (Rajasthan), India from 16 to 19 Dec 2020.
- Akshay Rathore (IAS- RSECS) is the General Chair.
- 1000+ paper expectations
- Venue: MNIT Jaipur
- Paper submission opens: 15 Feb 2020
- Paper submission closes: 15 May 2020
- Decision notification: 01 August 2020
- Final paper submission and early bird registration: 01 October 2020

www.pedes2020.com

* All presented papers are eligible for submission and review in IEEE Transactions on Industry Applications and Magazine.

PESGRE 2020 (Power Electronics Smart Grid and Renewable Energy)

- Inaugural conference sponsored by IAS, PELS and IES.
- Conference will be held in Cochin/Kochi (Kerala), India from 2-4 Jan 2020.
- Akshay Rathore (IAS- RSECS) is the General Chair.
- Venue: Hotel Le Meridian
- 470 papers received; Review process is ongoing.
- 46 papers from abroad (10%), 17 countries.
- Keynotes and Tutorials announced.

www.pesgre2020.com

* All presented papers are eligible for submission and review in IEEE Transactions on Industry Applications and Magazine.

IAS-RES Best Paper Awards Committee

- Yilmaz Sozer
- Akshay Rathore
- Ke Ma
- Tausif Husain
- Mithat Kisacikoglu
- Yusuf Yasa
- Fatih Cingoz

IAS -RES Committee Paper Awards

1st Place: Nurul Fazlin Roslan, Alvaro Luna, Joan Rocabert, Jose Ignacio Candela, and Pedro Rodriguez

“Remote Power Control Strategy based on Virtual Flux Approach for the Grid Tied Power Converters”

2nd Place: Landon Mackey, Chang Peng, and Iqbal Husain

“Progressive Switching of Hybrid DC Circuit Breakers for Faster Fault Isolation”

3rd Place: Jishnu Kambrath, Changwoo Yoon, Youyi Wang, and Yong-jin Yoon

“Modelling and Control to Mitigate Dynamic Effects of Unbalanced Masses in Wind Turbine Systems”

IAS-RES Committee Paper Awards

Third Prize

Jishnu Kambrath, Changwoo Yoon, Youyi Wang, and Yong-jin Yoon

“Modelling and Control to Mitigate Dynamic Effects of Unbalanced Masses in Wind Turbine Systems”

IAS-RES Committee Paper Awards

Second Prize

Landon Mackey, Chang Peng, and Iqbal Husain

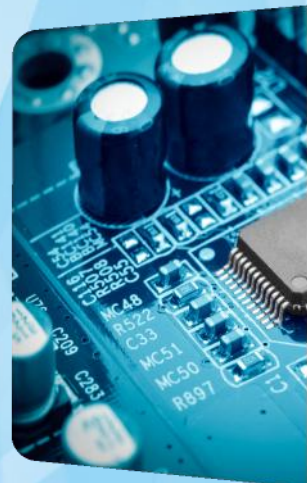
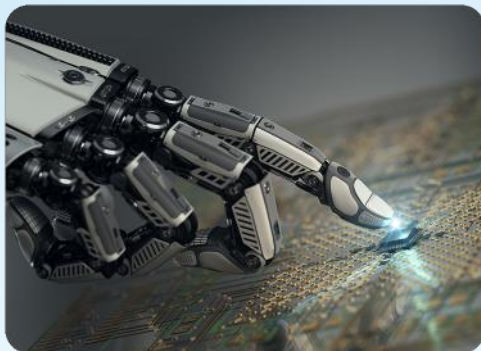
“Progressive Switching of Hybrid DC Circuit Breakers for Faster Fault Isolation”

IAS-RES Committee Paper Awards

First Prize

Nurul Fazlin Roslan, Alvaro Luna, Joan Rocabert, Jose Ignacio Candela, and Pedro Rodriguez

“Remote Power Control Strategy based on Virtual Flux Approach for the Grid Tied Power Converters”



IEEE Standards Coordinating Committee 21 Overview

ECCE 2019 Update

Standards Coordinating Committee 21

Standards Coordinating Committee on Fuel Cells, Photovoltaics, Dispersed Generation, and Energy Storage

Active IEEE Working Groups (Projects with Blue Font Holding Regular Meetings)

- **IEEE P1547a:** Standard for DER Interconnection (Modify ride through ranges in Category III)
- **IEEE P1547.1:** DER interconnection test and verification requirements
 - Sponsor Ballot Approved, recirculating comment resolution.
- **IEEE P1547.2:** Application Guide to 1547
- **IEEE P1547.3:** Guide for Interoperability and Cybersecurity of Distributed Energy Resources
- **IEEE P1547.9:** Guide for Energy Storage System Interconnection
- **IEEE P2030.4:** Guide for Control and Automation Installations Applied to the Electric Power Infrastructure
- **IEEE P2030.5:** Standard for Smart Energy Profile 2.0 Application Protocol
- **TBD:** Smart Infrastructure Network Project

SCC 21 - Standards

Photovoltaic Standards (Stand-Alone or Remote Systems)

- **IEEE P937**; IEEE Recommended Practice for Installation and Maintenance of Lead-Acid Batteries for Photovoltaic (PV) Systems
- **IEEE 1013-2019**; IEEE Recommended Practice for Sizing Lead-Acid Batteries for Stand-Alone Photovoltaic (PV) Systems
- **IEEE 1361-2014**; IEEE Guide for Selection, Charging, Test and Evaluation of Lead-Acid Batteries Used in Stand-Alone Photovoltaic (PV) Systems
- **IEEE P1526**; Recommended Practice For Testing the Performance of Stand Alone Photovoltaic Systems
- **IEEE 1561-2019**; Guide for Optimizing the Performance and Life of Lead-Acid Batteries in Remote Hybrid Power Systems
- **IEEE 1562-2019**; Guide for Array and Battery Sizing in Stand-Alone Photovoltaic (PV) Systems.
- **IEEE 1661-2019**; Guide for Test and Evaluation of Lead-Acid Batteries Used in Photovoltaic (PV) Hybrid Power Systems

Note: Active Working Groups in Blue Text (Jointly Sponsored with IEEE PES ESB)

Other Standards Activity

- **IEEE P2800** Standard for Interconnection and Interoperability of Inverter-Based Resources Interconnecting with Associated Transmission Electric Power Systems
- **IEEE P2800.1** Guide for Test and Verification Procedures for Inverter-Based Resources Interconnecting with Associated Transmission Electric Power Systems
- **IEEE P2815**; Guide for the Technical Specification for Smart Distribution Transformer Terminal (Entity)
- **IEEE P2030.7** Standard for the Specification of Microgrid Controllers
- **IEEE P2030.8** Standard for the Testing of Microgrid Controllers
- **IEEE P2030.11** Guide for Distributed Energy Resource Management Systems (DERMS)
- **IEEE P2030.12** Guide for protection of Microgrid Systems
- **IEEE P2030.10.1** Standard for Electricity Access Requirements with Safety Extra Low Voltage (SELV) DC ...Multi-tier Framework for Household Electricity Supply (not exceeding 60V)

Note: Active Working Groups in Blue Text (Jointly Sponsored with IEEE PES ESB)

SCC 21 Active Projects/Standards

Status – September 2019

1. IEEE P1547.1

2. IEEE P1547.2 – “Application Guide”

3. IEEE 1547.3-2007 – “Monitoring Information and Control”

4. IEEE P1547.9 - “Energy Storage Interconnection Guide”

1. Active Project –

- The initial sponsor ballot received a 79% approval rate (86% response rate) and received 1,167 ballot comments and 115 public comments.
- Recirculate the ballot in September 2019.
- We anticipate submitting the draft to RevCom for the January 2020 review deadline.

2. Active Project - Meetings in October 2019, February and June, 2020

- Monthly calls to continue progress

3. Approved at September RevCom

4. Active Project Next Meeting Web meeting in October

EC Nominations and Elections

- Chair – Adel Nasiri, USA
- Vice Chair & TPC –Akshay Kumar Rathore , Canada
- Vice Chair – Ke Ma, China
- Secretary – Eduard Muljadi, USA
- Past Chair – Yilmaz Sozer, USA

Volunteering for IAS RES Committee Activities

- IEEE Transactions on Industry Applications
 - ❖ Reviewers
 - ❖ Associate Editors
- ECCE 2020
 - ❖ Topic Chairs
 - ❖ Reviewers
- Nominations for IAS Awards

IEEE Energy Conversion Congress and Exposition - ECCE 2020

Oct 11 (Sunday)-Oct 15 (Thursday), 2020

TCF (Cobo) Convention Center

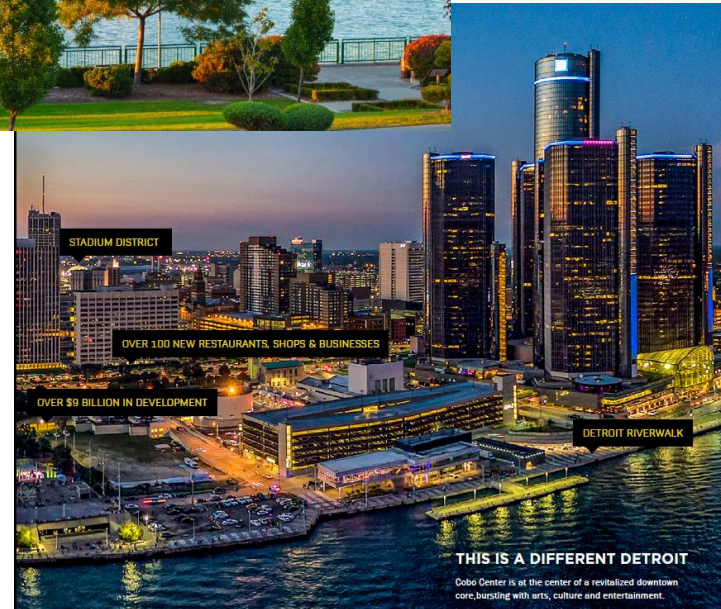
Detroit, USA

General Chair

Yunwei (Ryan) Li

Detroit with a Revitalized Downtown Core

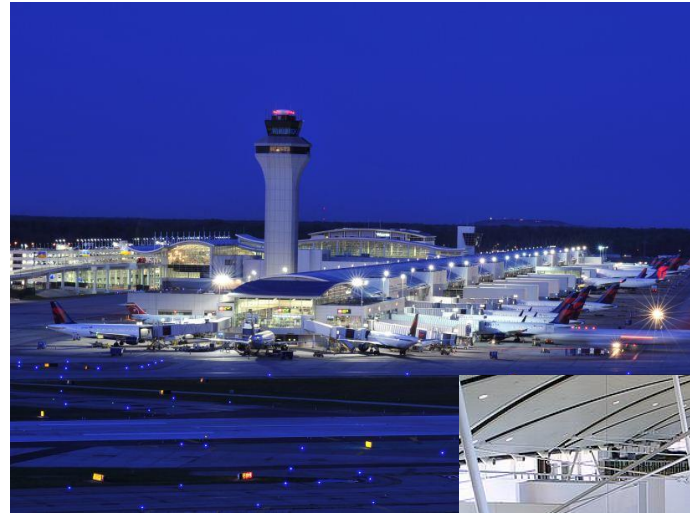
- **This is a different Detroit** with culture, history, entertainment, beautiful buildings, grit and determination.
- Top-ranked airport and convention center
- Some 5,000 hotel rooms downtown
- An very industrial city
- Best in travel in 2018 top cities



Detroit with a Revitalized Downtown Core

- Detroit Metro Airport (DTW)
Non-stop Flights from 111
U.S. Cities and 16
Countries:

*Brazil, Canada, China, France,
Germany, Italy, Japan, South
Korea, Mexico, Netherlands,
UK, and more.*

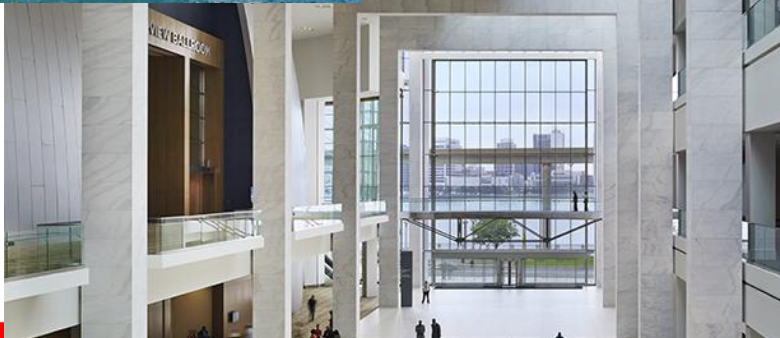


- Excellent public transit
system:
The People Mover has 13 stops
in downtown, with a station on
the 4th floor of conference
Convention Center.



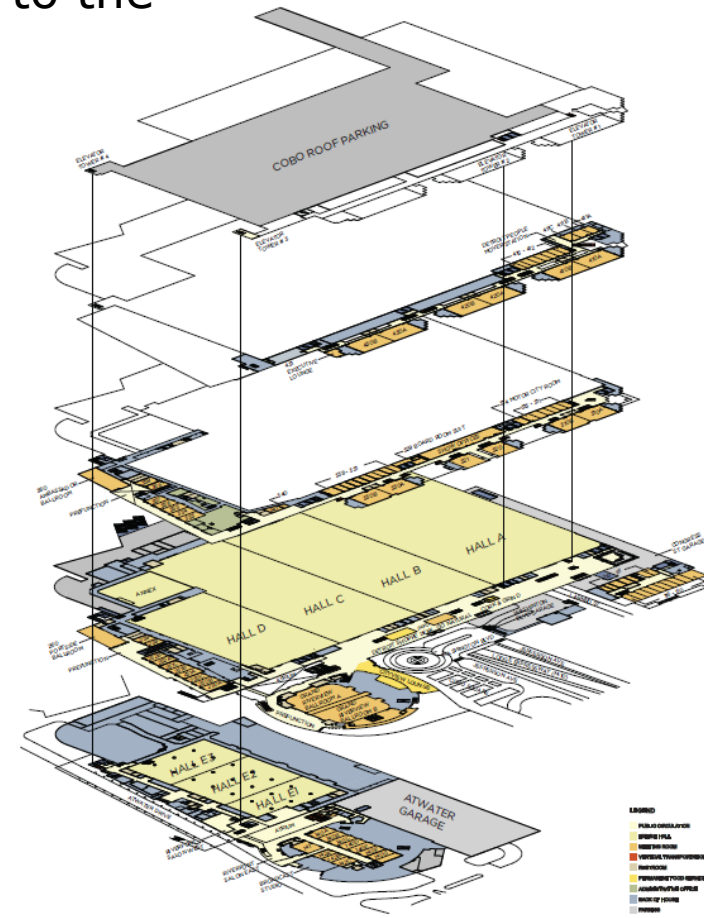
Detroit Convention Center

- Previously known as Cobo center. Recently has a new name **TCF Center**.
- Located right in the heart of downtown Detroit - The TCF Center waterfront is a phenomenal experience.
- The 17th largest convention center in the United States. Completely renovated in 2010-2015 with \$279 million budget.
- ECCE 2020 meeting rooms are at the water front side.



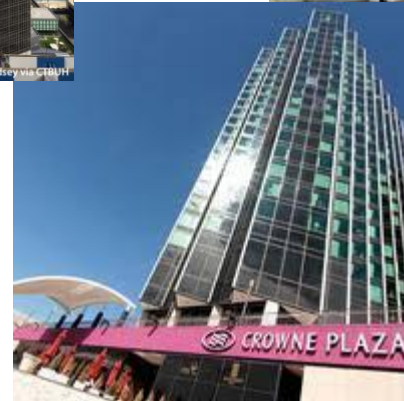
Detroit TCF (Cobo) Convention Center

- 22 miles from the airport
- 3.5 mile Riverwalk with Canadian neighbors to the south
- 2.4 million square feet of usable space



Hotels

- Numerous hotels within walking distance:



ECCE 2020 Logo Design Competition



IEEE ENERGY CONVERSION CONGRESS & EXPO



DETROIT, MICHIGAN | OCTOBER 11-15



DETROIT, MICHIGAN | OCTOBER 11-15

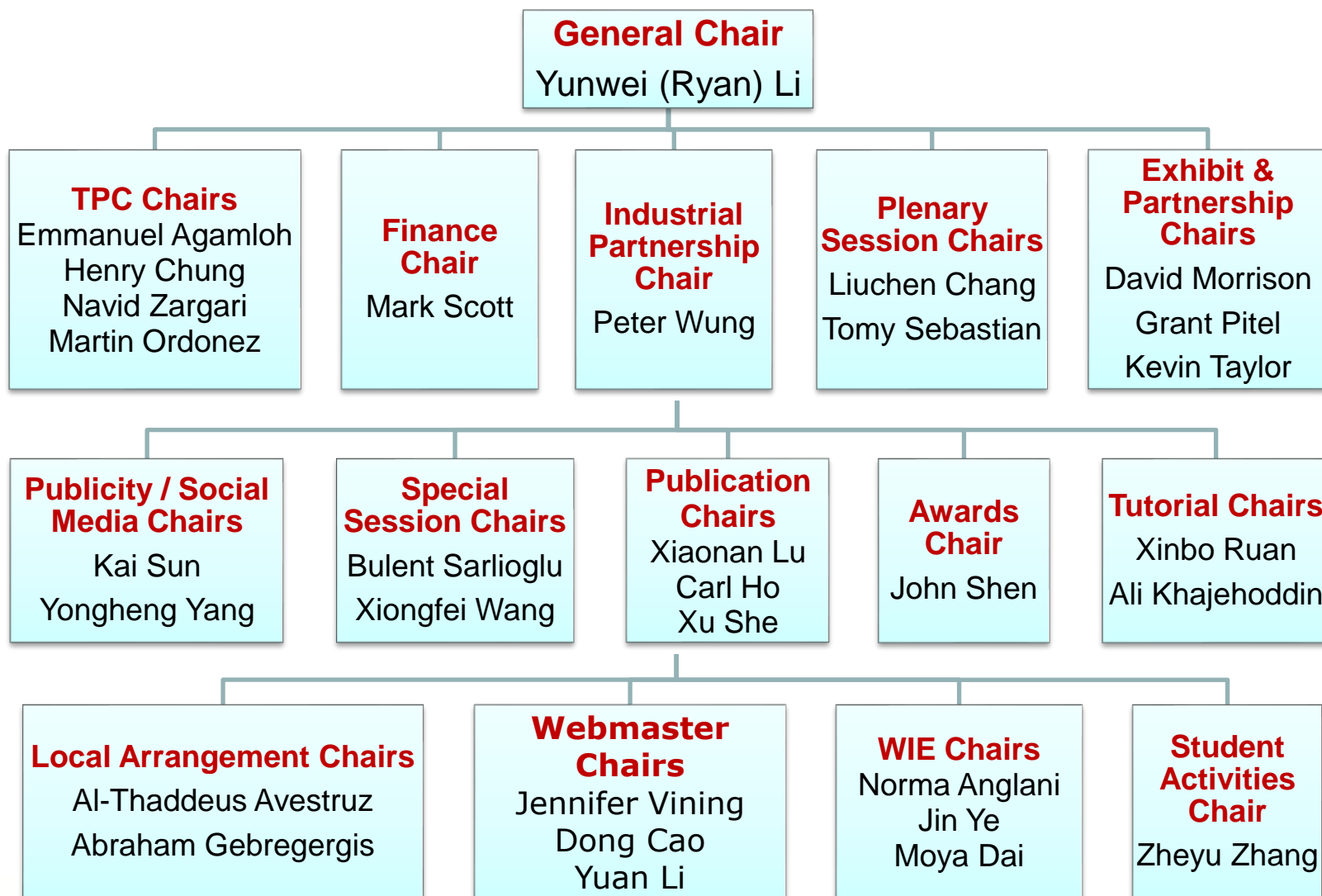


IEEE ENERGY CONVERSION CONGRESS & EXPO

- **Winners** selected from 20 designs:
Xiaonan Lu & Yangdi Wang
Thanks you and congratulations!

- **Vehicle** representing the leading automatic industry in the conference venue Detroit
- **Robotic Arm** showing the world-leading manufacturing facilities in Detroit
- **Notes of Music** highlighting the famous music practice in Detroit and also illuminate the advancement of power electronics industry – fusion of tech and art

ECCE 2020 Organization



ECCE 2020 Important Dates

- Important Dates:
 - January 15, 2020, submissions of digests
 - February 17, 2020, tutorials proposals
 - March 31, 2020, special session proposals

