

Minutes for 2020 IEEE PESGM PEEC Research Subcommittee Meeting

August 2, 2020
2PM - 4PM EDT
Virtual Zoom Meeting

1. Introduction

- Le Xie introduced the meeting.
- Meeting started with the attendee's introduction.

2. Approval of Minutes from 2019 Meeting

- Brian Johnson moved and Sukumar Kamalasan seconded.
- All members voted in favor of approving the minutes.

3. Announcements of PESGM 2020

- Several panel sessions sponsored by PEEC:
 - PEECPL01, AI and VR applications for Power and Energy Systems Research and Education, Moderator: SM Muyeen, Thursday, August 6, 2020, 10:00 AM - 12:00 PM, On Demand.
 - PEECPL02, Novel Interdisciplinary Approaches for Power and Energy Research and Education, Moderators: Sumit Paudyal and Anamika Dubey, Wednesday, August 5, 2020, 1:00 PM - 3:00 PM, On Demand.
 - PEECPL03, Research and Education in Distribution Management System with DERs for Resilient Grid, Moderator: Noel Schulz, Wednesday, August 5, 2020, 3:00 PM - 5:00 PM, On Demand.
 - PEECPL04, Research and Educational Experiences of NSF CAREER Awardees in Power Systems, Moderator: Anil Pahwa, Wednesday, August 5, 2020, 8:00 AM - 12:00 PM, On Demand.
 - PEECPL05, Disruptive Technologies: Multi-Disciplinary Careers for Modern Grids, Moderators: Ramtin Hadidi and Mostafa Farrokhabadi, Tuesday, August 4, 2020, 1:00 PM - 3:00 PM, On Demand.
 - PEECPL06, Education and Research of Data Science for Power Systems, Moderator: Le Xie, Thursday, August 6, 2020, 8:00 AM - 10:00 AM, On Demand.
- Panel session co-sponsored by AMPS and PEEC:
 - AMPSTASPL03, Wind SSO: Real-World Events and Advanced Modeling, Moderators: Yunzhi Cheng and Lingling Fan, Tuesday, August 4, 2020, 1:00 PM - 5:00 PM, On Demand.
- Live panel session for PEECPL04 - Research and Educational Experiences of NSF CAREER Awardees in Power Systems:
 - [Click here to join the Zoom meeting.](#)
 - Q&A with Panelists: Research and Educational Experiences of NSF CAREER Awardees in Power Systems (60 minutes starting at 11:00 am EDT)
 - iPhone one-tap (US Toll): +16692545252,,16090207360# or +16468287666,,16090207360#

- Meeting URL:
<https://nsf.zoomgov.com/j/16090207360?pwd=UmlWZE5rOXgwNEZFY1pKaGlxRVRHdz09>
- Meeting ID: 160 9020 7360
- Password: 469314
- Live panel session for PEECPL02, Novel Interdisciplinary Approaches for Power and Energy Research and Education:
 - Topic: Novel Interdisciplinary Approaches for Power and Energy Research and Education [PEEC Panel IEEE PES GM 2020]
 - Time: Aug 5, 2020 01:00 PM Eastern Time (US and Canada)
 - Join Zoom Meeting:
<https://fiu.zoom.us/j/99796546378?pwd=ZEtlOFg4NHFYUVpnYXF2eGFUTStEUT09>
 - Meeting ID: 997 9654 6378
 - Password: 513429
- Tutorials: 7 full-day and 5 half-day
- Student Poster Session: July 27 – August 3

4. NAPS Reports

- 51st North American Power Symposium, 2019 (Wichita State University): Anil Pahwa.
 - Conference was well organized and well attended.
 - Conference highlights: Sunday students soft-skills workshop, grant writing talk given by Anil Pahwa.
- 52nd North American Power Symposium, 2020 (Arizona State University): Mojdeh Khorsand.
 - Conference is postponed to April 2021 due to COVID-19.
 - Paper submission deadline has passed with 225 papers received.
 - The papers are being reviewed and the notifications will be sent soon.
 - Number of paper submissions provided by Brian Johnson and Sukumar Brahma – NAPS 2019: more than 300 papers submitted (225 accepted); NAPS 2018: 203 papers submitted; NAPS 2017: 345 papers submitted; NAPS 2016: 274 papers submitted, NAPS 2015: 255 papers submitted.
 - No significant decrease in number of papers submitted compared to previous years (due to COVID-19).
 - No delay is anticipated for papers to be released in IEEE proceedings. The papers will appear in IEEEExplore after the conference is held in April.
 - Conference preparations are on schedule and hotels are booked for about 200 students.
- 53rd North American Power Symposium, 2021 (Texas A&M University): Thomas Overbye.
 - Conference will be held in late October 2021. Exact date TBD.
 - Paper submission deadline in July. Exact date TBD.
 - No change is anticipated for the conference data/format (due to COVID-19).
 - TAMU will seek funding/supports from NSF, PES, and industry.
 - TAMU will hold another conference (TEPC 2021) in February 4-5, 2021. Its paper submission deadline is in November 2020.
 - No impact is anticipated on NAPS 2021 due to the changes of NAPS 2020.

5. Proposed Subcommittee Sponsored Activities for PESGM 2021

➤ Panel session proposals:

- Lingling Fan: Panel on AI for dynamic systems.
 - ❖ Focus on research and education on data-driven methods for system dynamic model identification.
 - ❖ Anthony Kuh and Anil Pahwa may suggest panelists outside power system area.
 - ❖ Lingling Fan is willing to lead; Aranya Chakraborty is willing to help.
- Vijay Vittal: Panel on managing energy grids during the pandemic.
 - ❖ Focus on how to perform system planning and operation during the pandemic.
 - ❖ Suggested topics: impacts of the pandemic on load forecasting, overvoltage, decentralized visual dispatch and control center, etc.
 - ❖ Vijay Vittal and Anil Pahwa may suggest potential lead(s) and panelists.
 - ❖ Sarma 'NDR' Nuthalapati may suggest potential panelists from India.
 - ❖ Nirmal Nair may suggest international panelists for this panel.
 - ❖ Lead for panel TBD.
- Thomas Overbye: Panel on simulators in power system research and education.
 - ❖ Anil Pahwa suggested Anurag Srivastava (WSU) as a potential panelist (on human-technology interactions).
 - ❖ Irfan Khan suggested co-sponsorship with PEEC University Education SC.
 - ❖ Ravikumar Gelli is interested in participating in this panel.
 - ❖ Thomas Overbye is willing to lead.
- Anil Pahwa: Continue the NSF CAREER panel next year.
 - ❖ Anil Pahwa and/or Aranya Chakraborty will lead.
- Vijay Vittal: Panel from DOE SETO office
 - ❖ Focus on solar integration to the grid.
 - ❖ Henry Huang suggested Guohui Yuan (system integration program manager of SETO) or one SETO awardee as the panel lead.
 - ❖ Vijay suggested Raja Ayyanar (SETO awardee from ASU) as the panel lead.
 - ❖ Lead for panel TBD. Contact Henry Huang if interested.
- Henry Huang: Panel on the grand challenges of energy storage
 - ❖ Focus on workforce development: how to leverage university graduate programs to support workforce development for energy storage applications in the power grid.
 - ❖ Mohammed Ben-Idris is willing to lead.
- Aranya Chakraborty: Panel on power electronics.
 - ❖ Suggested topics include ship-board power systems (potential panelists from ONR) and other power electronic related topics.
 - ❖ Aranya Chakraborty may suggest names for the potential lead(s)/panelists.
 - ❖ Hashem Nehrir suggested Scott Sudhoff (Purdue) as the best contact for ONR. Scott Sudhoff was the general chair for the 2019 IEEE Electric Ship Technology Symposium (sponsored by ONR).

- ❖ Sukumar Brahma suggested protection to be a good topic for integration of power electronics-based resources.
- ❖ Sairaj Dhople (suggested by Anil Pahwa) is willing to lead.
- Mojdeh Khorsand: Panel on socially-aware systems for DER and smart grid planning and operation under the pandemic.
 - ❖ Le Xie suggested to combine this panel with the panel suggested by Vijay Vittal (on managing energy grids during the pandemic).
 - ❖ Mojdeh Khorsand is willing to lead.
- Irfan Khan: Panel on transferring from face-to-face to remote teaching.
 - ❖ Co-sponsored by University Education SC and Research SC of PEEC.
 - ❖ Le Xie suggested the University Education SC as the primary sponsor and Research SC as the co-sponsor.
 - ❖ Irfan Khan is willing to lead.
- Aranya Chakraborty: Panel on cyber-physical security.
 - ❖ Henry Huang and Anil Pahwa suggested including cyber security topics in the DOE SETO panel.
 - ❖ Le Xie suggested reaching out to AMPS Cybersecurity SC for co-sponsorship.
 - ❖ Brian Johnson mentioned ABET is developing criteria for accreditation for cybersecurity degrees.
- Vedran Peric: Panel on the integration of various energy systems.
 - ❖ Le Xie suggested reaching out to PES Energy Internet Coordinating Committee for list of potential speakers and co-sponsorship.
- Ravikumar Gelli: Panel on cloud computing and IoT for power systems
 - ❖ Le Xie suggested reaching out to AMPS Big Data Analytics SC (Application of Cloud Computing in Power System TF) for sponsorship or co-sponsorship.
 - ❖ Henry Huang suggested reaching out to AMPS Computing and Analytic Methods SC (with a TF on cloud computing) for co-sponsorship.
- Suggestions for panel proposals (from Le Xie, Thomas Overbye, Sukumar Brahma, and Sukumar Kamalasadán):
 - Co-sponsorship with other technical committees is encouraged. Co-sponsored panels should have one lead committee. The panel hours will be allocated to the lead committee.
 - Proposed panel should have an education portion.
 - Panels can be 2-hour or 4-hour long.
 - Proposals need to be submitted to PEEC Research SC by August 28, 2020.

6. DOE ARPA-E Research Opportunities: Kory Hedman

- Updates on ARPA-E PERFORM (Performance-based Energy Resource, Feedback, Optimization, and Risk Management):
 - In Phase I (R&D) of PERFORM, 12 teams (\$35 million) are awarded.
 - In Phase II (Data Plan) of PERFORM, ARPA-E will seek for synthetic test data/systems that will be made publicly available.
 - In Phase III (Pilot) of PERFORM, top-performed teams will partner with utilities to run on-site tests. This phase has not been approved yet.

- ARPA-E Grid Optimization: Phase II will be launched soon.
- Kory Hedman will leave ARPA-E in early October 2020.

7. DOE SETO Research Opportunities: Henry Huang

- SETO has 5 programs focusing on solar power.
 - SETO System Integration (SI) program (Program Manager: Guohui Yuan) focuses on advancing the reliable, resilient, secure, and affordable integration of solar energy onto the nation's grid. It is the most relevant to PES.
 - SETO Photovoltaics (PV) program focuses on the development of low-cost, high-efficiency photovoltaic (PV) technologies to make solar power more accessible.
 - SETO Concentrated Solar Power (CSP) program focuses on the research and development to improve the performance, reduce the cost, and improve the lifetime and reliability of CSP technologies.
 - SETO Manufacturing and Competitiveness program focuses on solar manufacturing and competitiveness R&D to develop pathways to commercialization for disruptive innovation in the solar industry.
 - SETO Soft Costs program focuses on addressing challenges associated with non-hardware cost components of a solar energy system.
- Other DOE activities relevant to PES:
 - GMLC: Resilience Modeling; Energy Storage and System Flexibility; Advanced Sensors and Data Analytics; Institutional Support and Analysis; Cybersecurity and Physical Security; Generation.
 - ESGC: Accelerate the development, commercialization, and utilization of next-generation energy storage technologies and sustain American global leadership in energy storage.
 - WSGC: Advance transformational technology and innovation to meet the global need for safe, secure, and affordable water. This includes a goal of net-zero water impact of thermal power plants.

8. Quick Update from NSF: Anil Pahwa

- NSF/ECCS/EPCN directors:
 - New NSF director: Sethuraman Panchanathan (ASU). New research directions may come up in the future.
 - New director for ECCS Division has not been announced yet. Decision will be made soon.
 - New program director for EPCN: Aranya Chakraborty (NCSU).
 - Anthony Kuh will leave NSF soon. A new program director search is posted.
 - Anil Pahwa will leave NSF towards end of August 2020.
- EPCN program:
 - This year, EPCN received the highest number of proposal submissions within ECCS.
 - Compared to last year (1st year after the no-deadline model, with large drop of proposal submissions), this year EPCN saw a little increase in the number of proposal submissions, causing the proposal success rate to drop a little.
- ASCENT program:

- Sponsor multi-disciplinary proposals within ECCS.
- 5 proposals were funded this year.
- Proposals need to be cross-cutting among different areas.
- Next year: ASCENT may have a pre-proposal phase.
- COVID proposal solicitation:
 - 2 RAPID proposals funded in EPCN.
 - 1 regular proposal funded in EPCN.
 - RAPID proposals focus on immediate impacts/solutions of COVID-19.
 - Regular proposals focus on long-term impacts/solutions on how to handle pandemics.
- SCC/CPS program:
 - These programs will fund proposals related to power systems.
 - CPS: proposals need to cover computer and cyber aspects.
 - SCC: proposals need to have collaborations with social science community.
- Other programs:
 - MRI: Have supported proposals from power systems in the past.
 - CSSI: no direct participation from power systems. PIs in power area are encouraged to collaborate with researchers in other fields such as computer science to submit proposals to this program.
 - AI and data science initiatives: Anthony Kuh is the main point of contact. Not many submissions from power systems to these programs.
- Review process:
 - Reviewers are encouraged to allocate enough time for proposal reviews.

9. Status of University Power Programs

- Tim Hansen: South Dakota State University has 2 new hires (the new EECS department head - Sid Suryanarayanan), and 1 new opening. Rajesh Kavasseri has moved to SDSU as the new associate dean for research.
- Aranya Chakraborty: Delft University of Technology (TU Delft) has 16 new EE positions posted on LinkedIn.

10. Future Activities

- Lingling Fan: Diversity task force.
 - A PES-level Diversity TF has recently been established.
 - The TF reaches out to PEEC on having students write book reviews and publish the reviews on the website.
 - The TF seeks for participations from tenured professors on this pilot project.
 - Sarma 'NDR' Nuthalapati may follow up with Lingling Fan on publishing student projects on the website.
 - Interested colleagues may contact Lingling Fan (Linglingfan@usf.edu) for volunteering for the diversity task force activities.

Meeting adjourned at 4pm EDT.