

IEEE PES Subcommittee on Big Data & Analytics

Chair: Prof. Le Xie, Texas A&M University

Secretary: Dr. Hung-Ming Chou, Dominion Energy

8/8/2018, 3-5 PM



Agenda

- Introduction
- Approval of minutes from 2017 meetings
- Announcements
- Subcommittee sponsored activities for the past year
- Proposed panel ideas for 2019 GM
- New proposed initiatives
- Future activities

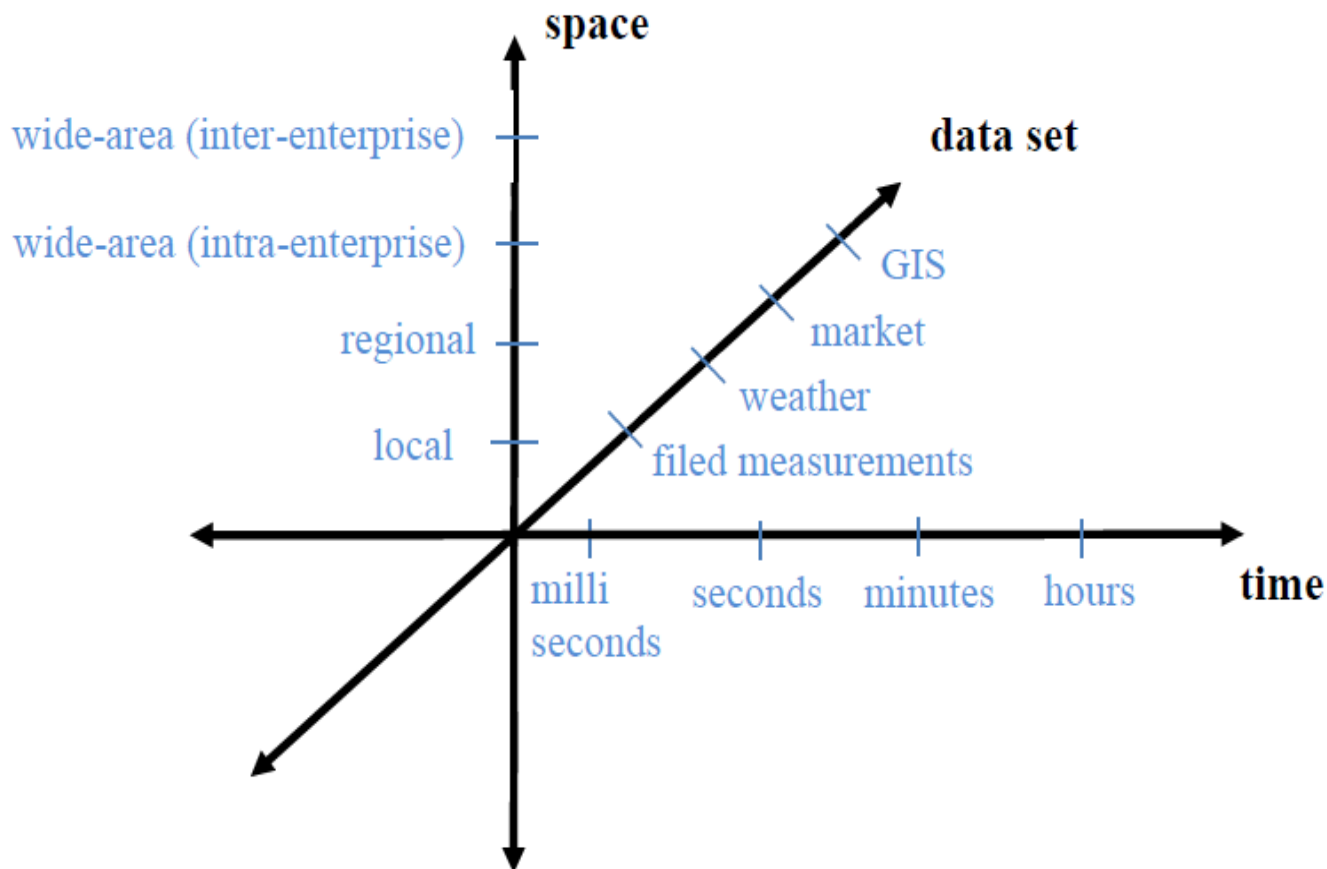


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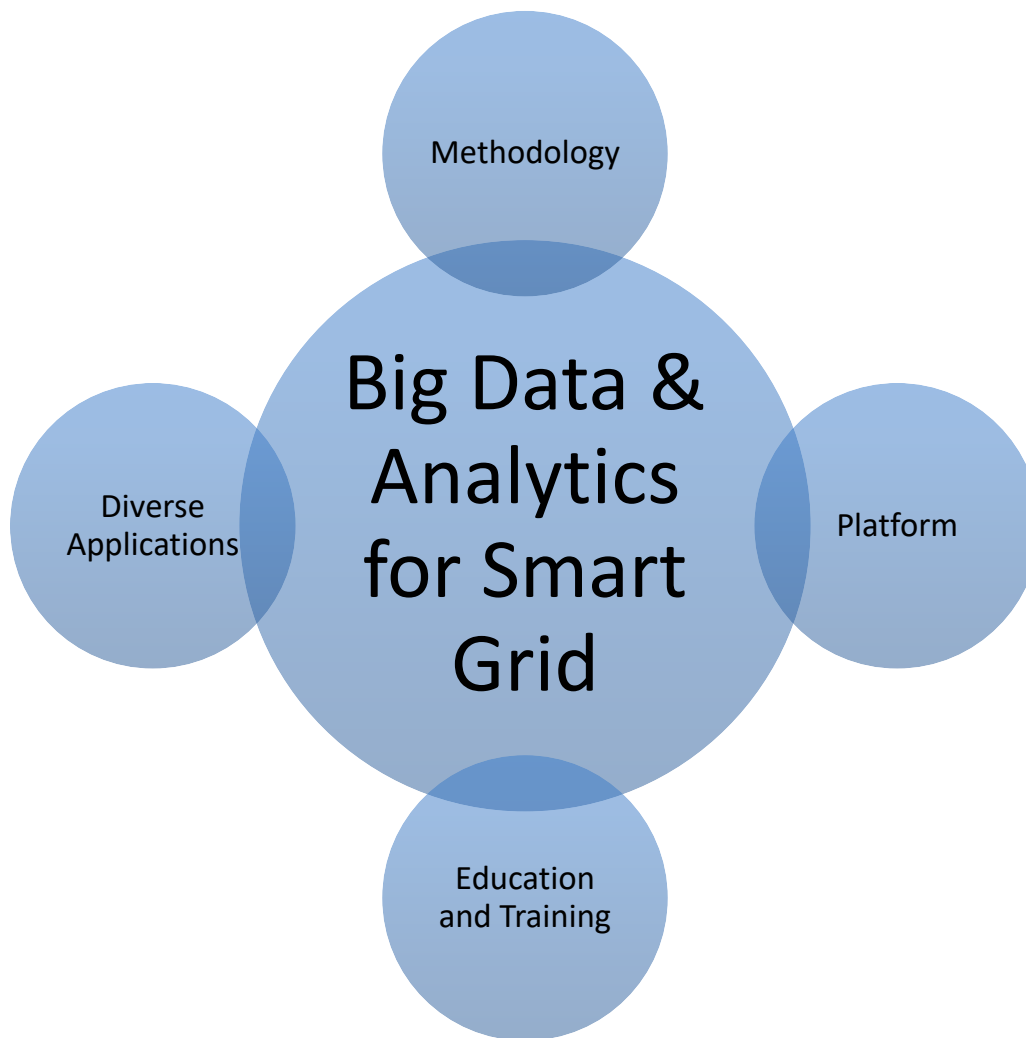


Big Data & Analytics Subcommittee: A Focal Point of Talents and Resources



What is the value proposition of big data in power grid?

Value Proposition



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Minutes from 2017 meetings

Draft minutes for 2017 IEEE PESGM Big Data Analytics (BDA) Subcommittee Meeting July 18, 2017 Chicago, IL

1. Introduction

Le Xie introduced the subcommittee and reviewed the meeting agenda

2. Approval of minutes from the 2016 meeting

Christopher Demarco moved, Jun Wen seconded. Members voted in favor of approving the 2016 meeting minutes

3. Announcements/summary

- Le Xie
- Panel session chairs provided updates on the BDA sponsored panels at 2017 PES GM:
 - Big data access and big data research integration in power system (Hamed Mohsenian-Rad)
 - 81 people attended the panel. A bigger room is needed next time
 - Overall discussion is about how to facilitate the data access that is useful for research
 - Big data analytics for integrated energy systems (Bie Zhaohong)
 - 7 panelists from 5 countries, 2 from industry, 5 from university
 - About 60 people attended the panel
 - Big data analytics for electricity markets and big data in power systems: transmission, distribution, and data analytic applications are after the subcommittee meetings
- Working group/TF meeting updates
 - Data Access WG
 - Discuss the panel for PES GM 2018
 - Discuss the new initiative, including a new website
 - Big Data Webinar TF
 - 35 people attend the meeting.
 - Will have webinar monthly, with problem driven approach, i.e.: identify the problem first and then invite speakers
 - Big Data Application in Distribution System TF
 - Prepare the bi-law and recruit more members
 - About 30 people attended the meeting and identify the key problems
 - Action item includes: 1) put together the white paper, 2) Propose 2 panel session for 2018 PES GM, 3) Have panel session in IEEE T&D, 4) coordinate 2 panel sessions in Distribution Tech
- IEEE Utility Big Data Workshop
 - On September 18, 2017 in San Antonio
 - <https://2017isap.tamu.edu/ieee-utility-big-data-workshop/>
 - Discuss the workshop agenda

- Le Xie ask the input from the audience regarding the workshop on UCLA (big data application for utility engineer)
- Hung-Ming Chou (Dominion Energy) gave a short self-introduction and was elected as the secretary for the subcommittee

4. Subcommittee sponsored activities for the 2018 GM

The following is proposed for 2018 PES GM:

- Super session: Data science and data quality as applied to power system
 - Session chair: Le Xie, Nanpeng Yu
- Panel session: Big data analytics for emerging power sensors and internet-of-things
 - Session chair: Hamed Mohsenian-Rad, Emma Stewart
- Panel session: Big data analytics focus on end-use customers in power distribution systems
 - Session chair: Nanpeng Yu, Haiwang Zhong
- Panel session: Big data analytics for flexible electricity networks, markets and prosumers
 - Session chair: Ran Li, Tao Hong
- Panel session: Best practices in sharing big data in power systems
 - Session chair: Ning Zhou, Hamed Mohsenian-Rad
- Panel session: Smart meters: from consumer behavior to planning
 - Session chair: Ram Rajagopal
- Panel session: High performance computing and big data analytics for large scale power system planning problems
 - Session chair: Dimitri Papageorgiou, Yingzhong Gu

5. Future activities

- Currently the BDA core team consists of Chair, Secretary, TF leaderships, and IEEE Big Data liaison, The core team will met bi-weekly or quarterly for subcommittee activities.
- Big Data Workshop in August 2018 at WSU
- IEEE Utility Big Data Workshop in September, 2018

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Announcement

- 2018 Panels and Papers
 - Total paper submitted: 44
 - Accepted: 19
 - Transaction paper: 3
- Call nomination of Vice Chair/TCPC

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Activities from last year

- IEEE Utility Big Data Workshop

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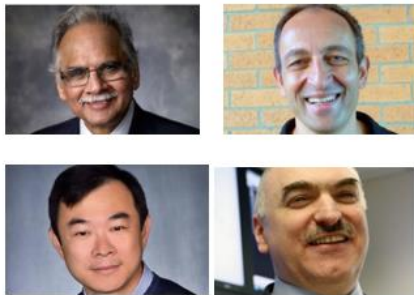
IEEE Utility Big Data Workshop

Big Data initiatives in the US and throughout the world have provided a unique window of opportunity for the electric power industry. Following a series of activities on big data for power and energy systems, the IEEE is pleased to announce **the first IEEE Utility Big Data Workshop**, organized by Le Xie, TAMU and Jeff Katz, IBM.

This one-day workshop will be held on **Monday, September 18, 2017**, in San Antonio, Texas will be co-located with the Intelligent System Applications to Power Systems (ISAP) conference.

Activities from last year

- NSF workshop on real-time learning and decision making
 - Dates: Feb 12-13, 2018 at NSF
 - 4 Keynotes
 - 3 Panels
 - 3 Breakout Sessions
 - 1 Session of Lighting talk+Poster (26 contributors)
 - 40+ Position Papers
- A community Report (post workshop)
- Key takeaway messages



3

Activities from last year

- NSF workshop on data analytics for grid resiliency August 4th & 5th
- Panel session in IEEE T&D EPRI Tutorial
- Webinar series

Webinar Series



IEEE PES Subcommittee on Big Data & Analytics for Power Systems



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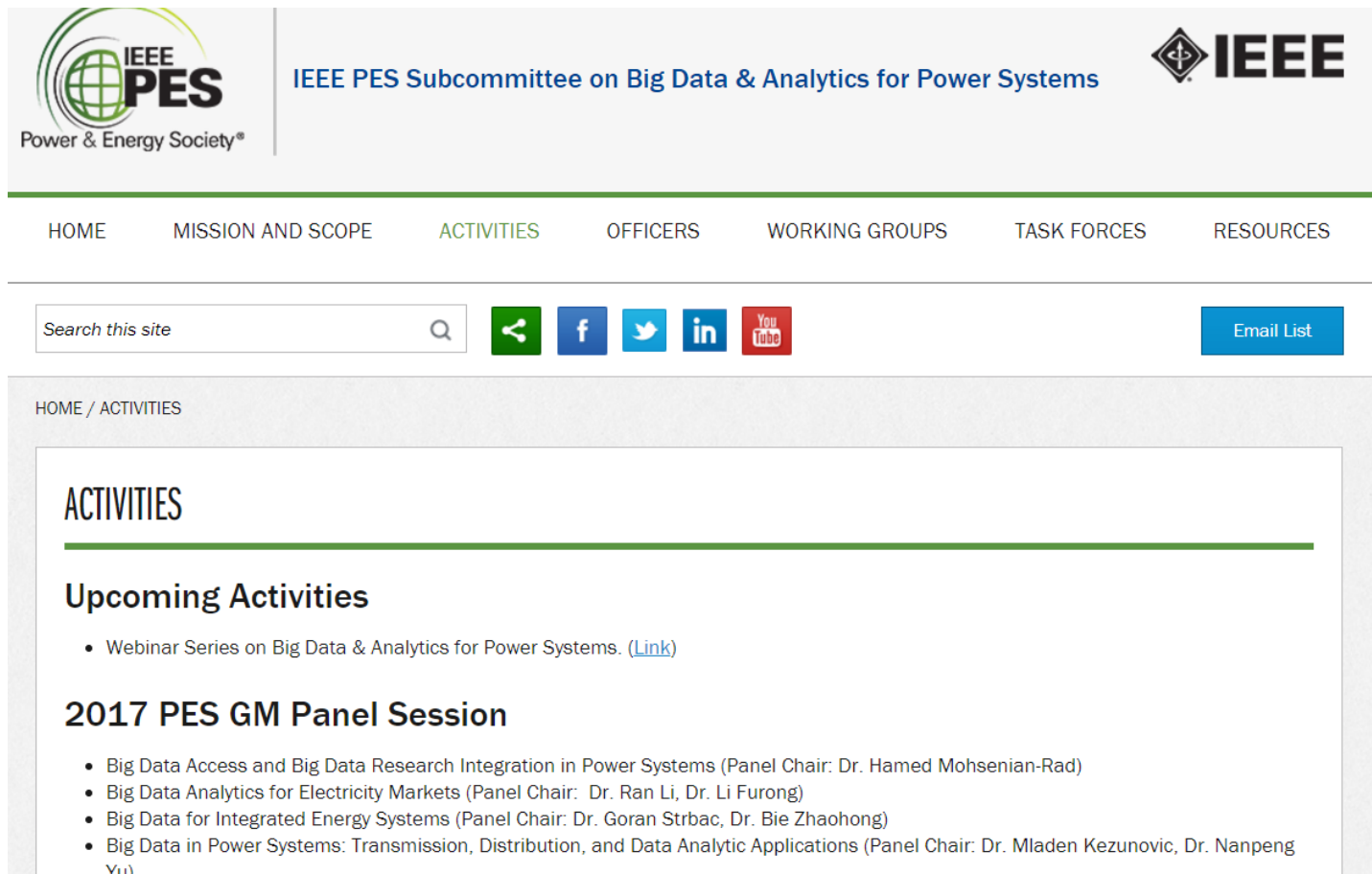
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WEBINAR

Title: Sacramento Municipal Utility District (SMUD)'s Data Analytics Initiatives



Website Established and linked with AMPS



The screenshot shows the website header with the IEEE PES logo on the left and the IEEE logo on the right. The main title is "IEEE PES Subcommittee on Big Data & Analytics for Power Systems". Below the header is a navigation menu with links: HOME, MISSION AND SCOPE, ACTIVITIES, OFFICERS, WORKING GROUPS, TASK FORCES, and RESOURCES. A search bar is present with the text "Search this site" and a magnifying glass icon. To the right of the search bar are social media icons for Facebook, Twitter, LinkedIn, and YouTube, along with an "Email List" button. The main content area is titled "HOME / ACTIVITIES" and features a section for "ACTIVITIES" with a green horizontal line. Underneath, there is a sub-section "Upcoming Activities" with a bullet point: "Webinar Series on Big Data & Analytics for Power Systems. (Link)". Below that is a section "2017 PES GM Panel Session" with four bullet points listing panel topics and chairs: "Big Data Access and Big Data Research Integration in Power Systems (Panel Chair: Dr. Hamed Mohsenian-Rad)", "Big Data Analytics for Electricity Markets (Panel Chair: Dr. Ran Li, Dr. Li Furong)", "Big Data for Integrated Energy Systems (Panel Chair: Dr. Goran Strbac, Dr. Bie Zhaohong)", and "Big Data in Power Systems: Transmission, Distribution, and Data Analytic Applications (Panel Chair: Dr. Mladen Kezunovic, Dr. Nanpeng Yu)".

<http://sites.ieee.org/pes-bdaps/>

Report from Working Group/ TF meeting

- Big data application in power distribution system TF
- Big data webinar series TF
- Data access WG

Supersession in PES 2018

- Super session: Data science and data quality as applied to power system
 - Session chair: Le Xie, Nanpeng Yu
 - Stream via Facebook
 - Global reach

Panels in GM 2018

- **Panel session: Big data analytics for emerging power sensors and internet-of-things** (Session chair: Hamed Mohsenian-Rad, Emma Stewart)
- **Panel session: Big data analytics focus on end-use customers in power distribution systems** (Session chair: Nanpeng Yu, Haiwang Zhong)
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Presentation & Discussion of proposed panel for 2019 GM

- 5 minutes for each person

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Presentation & Discussion of proposed WG/TF

- 5 minutes for each person

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Outreach/Education

- Outreach to IEEE Big Data Initiative, Depository for Big Data Related Research (YC Zhang is the liason)
- Outreach to NSF Smart Grid Big Data Hub (Le Xie is th liason)
 - Major workshop on Smart Grid Big Data on Apr 18, 2017 in College Station TX
 - About 130 participants with online programs available
- Outreach to *Trends and Foundations on Electric Energy Systems*
- *Special Topic Course “Data Sciences for Modern Power Systems”*
Taught for the first time in Fall 2015 at Texas A&M, also trained 30+ CenterPoint Engineers
- Springer Monograph under preparation
- *IEEE Webinar on Big Data*

We Need Volunteers!

- How to sign up?
 - Email le.xie@tamu.edu and mention your interest
 - Please mention which initiative(s) you are interested.

<http://sites.ieee.org/pes-bdaps/>

