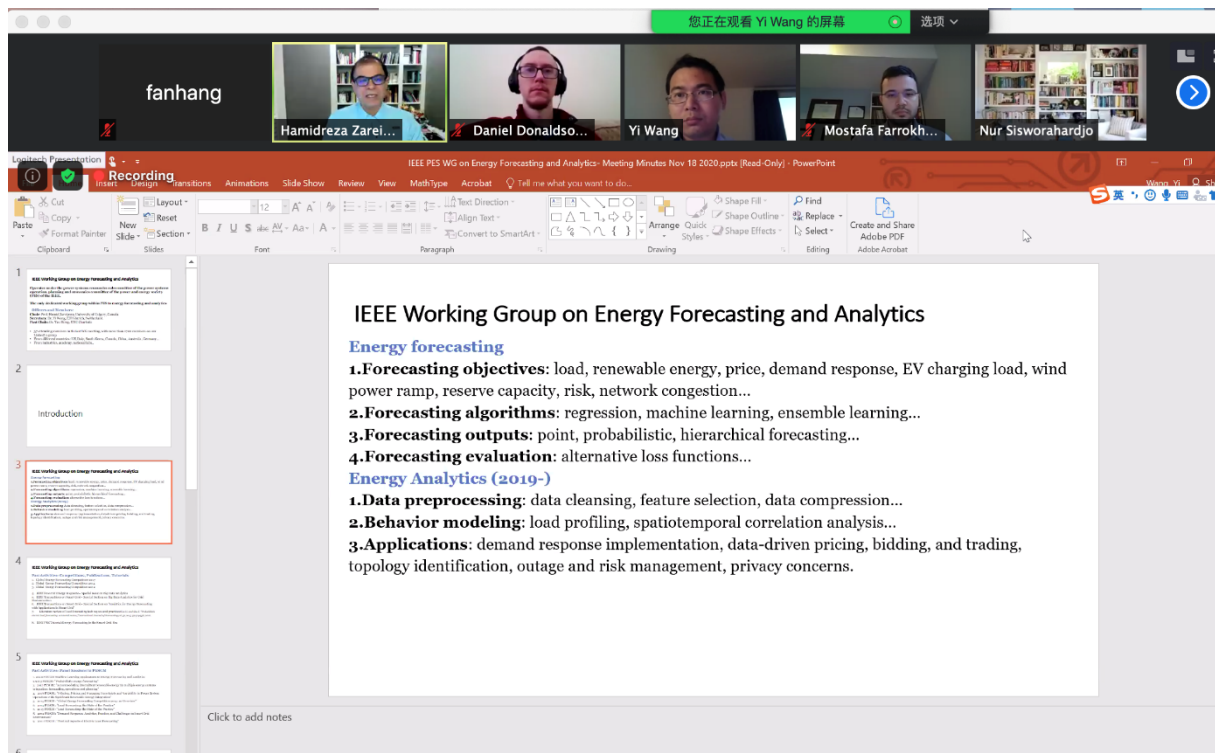


IEEE PES WG on Energy Forecasting and Analytics Annual Meeting Minutes

Online, November 18, 2020; 9:00-10:00 am MST

1. Welcome and attendee introductions

The chair of IEEE Working Group on Energy Forecasting (WGEF), Prof. Hamidreza Zareipour opened the meeting at 9:00 AM. About 38 people being present for part or all of the meeting by zoom. Prof. Hamidreza Zareipour firstly introduced the basic information of the working group and historical activities. At the same time, each attendee made a brief self-introduction of himself or herself on the chat. The also leave their contacts for further information of the WG. The meeting was recorded and will be distributed to the people who are interested in but cannot attend this meeting.



The screenshot shows a Zoom meeting interface with five participants: fanhang, Hamidreza Zarei..., Daniel Donaldso..., Yi Wang, Mostafa Farrokh..., and Nur Sisworahardjo. The main content is a PowerPoint slide titled "IEEE Working Group on Energy Forecasting and Analytics". The slide content is as follows:

IEEE Working Group on Energy Forecasting and Analytics

Energy forecasting

- 1. Forecasting objectives:** load, renewable energy, price, demand response, EV charging load, wind power ramp, reserve capacity, risk, network congestion...
- 2. Forecasting algorithms:** regression, machine learning, ensemble learning...
- 3. Forecasting outputs:** point, probabilistic, hierarchical forecasting...
- 4. Forecasting evaluation:** alternative loss functions...

Energy Analytics (2019-)

- 1. Data preprocessing:** data cleansing, feature selection, data compression...
- 2. Behavior modeling:** load profiling, spatiotemporal correlation analysis...
- 3. Applications:** demand response implementation, data-driven pricing, bidding, and trading, topology identification, outage and risk management, privacy concerns.

2. Report on activities in the past year (2019)

2.1. Panel sessions for GM 2021

Prof. Hamidreza Zareipour said that there was no slots assigned to working groups. All the proposal should be submitted to the PSOPE for voting.

2.2. The review paper on energy forecasting

Dr. Yi Wang introduced the review paper on energy forecasting that has been published in the IEEE Open Access Journal of Power and Energy. He briefly went through the contexts of each sections of this paper. One audience suggested to conduct statistical analysis on how many forecasting algorithms are applied in industry and how many patents there are about energy forecasting.

2.3. Forecasting panel in GM 2020 and how it went

The panel organizer Luana Lima reported how the panel session “Machine Learning Applications to Energy Forecasting and Analytics” went during the general meeting. Six panelists uploaded their presentation videos. The online setup worked pretty well. The panel received three questions by email after the panel, which were then forwarded to the panelists for discussion.

2.4. Participation in the ERPI webinar 2020

Prof. Hamidreza Zareipour talks about the EPRI Customer Research Program in October 2020. There is a load forecasting interest group and about 400 people attended this meeting with a focus on long-term load forecasting. Prof. Tao Hong also attended this meeting and delivered a presentation about long-term net load forecasting.

2.5. Update the ISF and SWEET activities

Prof. Tao Hong introduced the activities sponsored by Section on Water, Energy and Environment (SWEET, <https://forecasters.org/programs/communities/sweet/>) in the International Symposium on Forecasting (ISF, <https://isf.forecasters.org>). SWEET brings people not only from power industry, but also from environment, gas, water, others; There were many slots for the conferences and 70-80 talks were about energy forecasting. It is great place to get and share new ideas from other sectors. ISF is also a great venue to host panel sessions about energy forecasting in addition to PESGM. More information about the panel application will be shared with WG members about 4-5 months before the meeting.

2.6. Co-sponsorship of a load forecasting competition along with IEEE Dataport

Dr. Mostafa Farrokhbadi shared basic information about the load forecasting considering the impact of COVID-19. It is a day-ahead forecasting competition on distribution-level loads. Aligned with the competition, a special section on the IEEE Open Access Journal of Power and Energy will be applied. Dr. Yi Wang is a member of the guest editorial board. The competition will be launched in the next few weeks. The winners of the competition get a certain number of funding and will be invited to write papers in the special section.

3. Open the floor for ideas for potential activities

The following issues were then discussed by the attendees.

1) Preparing for a tutorial on EF&A for GM 2022?

The deadline for tutorial application is in October before the year of the GM. We will keep that in mind and work together to try to organize the tutorial session on EF&A for GM 2022.

2) Ideas for a panel session for GM 2022?

Panels with a clear definition and firm commitment from speakers often have a higher chance. Note that we may not get dedicated WG slots anymore, so we have to compete with others. We should start to think about the panel session now. One attendee suggest the WG

should not only focus on the forecasting algorithms but also the influence of forecasting on power quality, frequency variations, etc. All ideas are welcomed and encouraged to submit panel session proposals.

3) Running the idea of an Energy forecasting competition for 2022 and asking the WG members' input

Prof. Tao Hong share the experience with forecasting competition and volunteers are needed to help organize the competition. Dr. Jethro Browell suggested longer time horizon forecasting and showed interests to support the competition. Prof. Tao Hong shared three ideas about the competition. One is the net load forecasting with solar; the second is the outage forecasting (time, durations, etc.); the third is an open data track in real time forecasting. Dr. Daniel Donaldson suggested load forecasting for different regions in addition to the US to cooperate different scenarios. Prof. Tao Hong and Prof. Hamidreza Zareipour suggested several ways to volunteer the competition: reviewing papers, submitting topics, sharing the energy data, providing funding to add more incentives.

4) Other ideas for WG members

4. Adjourn