

## **NASPI Work Group Virtual Meeting**

**April 13-15, 2021**

### **Agenda**

**8:00am PT / 11:00am ET**


The North American Synchrophasor Initiative (NASPI) Work Group Virtual Meeting will be April 13-15, 2021. Please join us for three full days featuring technical sessions and presentations discussing

- high-resolution sensors characterizing the transient behavior of inverter-based resources and other fast-acting phenomena,
- using measurement to enhance the accuracy of inverter-base resource models,
- statistical analysis and deep learning for extracting actionable information for large datasets,
- advanced distribution system applications.



In addition to our technical sessions we will also hear about bi-lateral utility interactions, recent success in implementing a PMU placement plan in the transmission planning process, DOE's Big Data Analytics update, and presentations from NASPI's partners. Our distinguished keynote will be Michael Pesin, Deputy Assistant Secretary, Advanced Grid Research and Development, U.S. Department of Energy.

**Virtual Poster Session:** The virtual poster sessions will follow at the conclusion of the main Work Group agenda on Tuesday at 4:55pm ET using the WebEx breakout rooms.

#### **Final Agenda 4/12/21**

<b>Eastern Time</b>	<b>Tuesday, April 13, 2021</b>
11:00 – 11:10 am	Welcome & Introductions: Jeff Dagle (PNNL)
11:10 – 11:25 am	Keynote: Michael Pesin, Deputy Assistant Secretary, Advanced Grid Research and Development, U.S. Department of Energy
11:25 – 11:45 am	NASPI Updates (15 minutes)
	<b>Session # 1 – Time Synchronized Techniques to Monitor / Mitigate Inverter Effects on Power Systems</b>
11:45 – 12:45 pm	<b>Moderator: Matt Rhodes</b> <ul style="list-style-type: none"> <li>• PMU Based Inertia Monitoring - Evangelos Farantatos (EPRI)</li> <li>• Identifying Oscillations Injected by Inverter-Based Solar Energy Sources in Dominion Energy's Service Territory using Synchrophasor Data and Point-on-Wave Data – Chen Wang, Chetan Mishra (Dominion Energy), Luigi Vanfretti (Rensselaer Polytechnic Institute)</li> <li>• Effective Area Inertia: Stability Challenges, Continuous PMU-based Measurement and Machine Learning Forecasting – Stuart Clark and Karine Hay(GE)</li> <li>• SETO Project – Sakis Meliopoulos (Georgia Tech)</li> </ul>
12:45 – 1:45	<b>Long break</b>
1:45 – 2:05 pm	VR Energy – Marianna Vaiman and Mohd Khairun Nizam Bin Mohd Sarmin (TNB) 
	<b>Session # 2 High-resolution sensors to characterize the transient behavior of inverter-based resources and other fast-acting phenomena</b>
2:05 – 2:25 pm	Using High-Resolution Time-Stamped Data to Improve System Operations – Richard Kirby (SEL)
2:25 – 2:45 pm	A Fractional Cycle Digital Fourier Transform PMU Applied to Power Inverter Event Detection - Jose Eduardo (CEPEL, Brazil)
2:45 – 2:50 pm	<b>Break – 5 minutes</b>

2:50 – 3:10 pm	A Synchronized Self-Contained Line-Powered Continuous Point-on-Wave Recorder – John Patterson (ASU)
3:10 – 3:30 pm	Transient and CPOW monitoring for renewable generation connections – Steven Blair (Synaptec)
3:30 – 3:50 pm	Facilitating Inverter-based Generation Integration with High-resolution Data - Gefei “Derek” Kou (Dominion Energy)
3:50 – 3:55 pm	<b>Break – 5 minutes</b>
	<b>Session # 3 Utilizing measurements to enhance the accuracy of inverter-based resource models</b>
3:55 – 4:15 pm	Using DQ-Domain Admittance Measurements to Tune Inverter Models - Lingling Fan (University South Florida)
4:15 – 4:35 pm	Improving the accuracy of modeling/simulation solvers to better understand the impact of inverter-based resources and other fast dynamics on power grids – David Schoenwald (SNL)
4:35 – 4:55 pm	Calculate Center-of-Inertia Frequency and System RoCoF Using PMU Data – Shutang “Steve” You (University of Tennessee)
4:55 – 5:30 pm	<b>Poster Sessions</b> being held in WebEx breakout rooms: <ul style="list-style-type: none"> <li>Locate the Source of Resonance-Involved Forced Oscillation in Power Systems Based on Mode Shape Analysis – Shutang “Steve” You (UTK)</li> <li>Computationally Efficient Synchrophasor Algorithms for Ultra-High-Rate Phasor Measurements – Lingwei “Eric” Zhan (ORNL)</li> </ul>

<b>Eastern Time</b>	<b>Wednesday, April 14, 2021</b>
11:00 – 11:10 am	Welcome & Agenda Review: Jeff Dagle (PNNL)
	<b>Session # 4 Statistical analysis and deep learning for extracting actionable information from large datasets</b>
11:10 – 11:30 am	Deep Learning approach for Model Parameter Calibration in Power Systems – Safwan Wshah (University of Vermont)
11:30 – 11:50 am	PMU Big Data Curation: Bringing It All Together – Jeff Banning (PNNL)
11:50 – 11:55 am	<b>Break – 5 minutes</b>
11:55 – 12:55 pm	Big Data Analytics Panel Session - Sandra Jenkins (U.S. DOE)
12:55 – 1:50 pm	<b>Long break</b>
1:50 – 2:10 pm	SEL Partner – Greg Zweigle 
	<b>Session # 5 PMU Placement and Data Exchange (15 minutes each)</b>
2:10 – 2:25 pm	PMU Placement Plan in the Transmission Planning Process - Shaun Murphy (PJM)
2:25 – 2:40 pm	WECC Synchrophasor Data Exchange – Dan Brancaccio (Quanta Technology)
2:40 – 2:55 pm	Synchrophasor Data Exchange – Kent Simendinger (EIDSN) & Paul Trachian (TVA)
2:55 – 3:00 pm	<b>Break – 5 minutes</b>
3:00 – 3:20 pm	IEEE SA Partner – Jason Allnut/Ravi Subramaniam 
	<b>Session # 6- Task Team Updates (10 minutes each)</b>
3:20 – 3:30 pm	CRSTT Update
3:30 – 3:40 pm	DisTT Update
3:40 – 3:50 pm	EATT Update
3:50 – 4:00 pm	PRSVTT Update
4:00 – 4:10 pm	DNMTT Update
4:10 – 5:00 pm	Examples of Using Synchrophasors to Detect and Understand Grid Events and the Impact of Wind and Solar Generation – Mack Grady (Baylor University) / 50 minutes
5:00 – 6:00 pm	<b>Please join us in the NASPI Reception in the main meeting room.</b>

Eastern Time	Thursday, April 15, 2021
11:00 – 11:10 am	Welcome & Agenda Review: Jeff Dagle (PNNL)
	<b>Session # 7 - Oscillations</b>
11:10 – 11:30 am	Framework for synchrophasor measurements data processing and the case studies of the low-frequency oscillations - Kirill Butin (Energoservice, NARFU)
11:30 – 11:50 am	Impact of PMU data quality on low-frequency oscillation estimation and control - Hossein Hooshyar (EPRI)
11:50 – 11:55 am	<b>Break – 5 minutes</b>
11:55 – 12:15 pm	A Regularized Framework for Multi-Channel Modal Analysis - Ryan Elliott (SNL)
12:15 – 12:35 pm	A Comprehensive Method to Mitigate Forced Oscillations in Large Interconnected Power Grids: EI Case Study - A.J Arana (FPL)
12:35 – 1:30 pm	<b>Long break</b>
	<b>Session # 8 – Other Synchronized Measurements Topics of Interest</b>
1:30 – 1:50 pm	Better Measurement: How four important measurements are being improved – Harold Kirkham (PNNL) / 20 minutes
1:50 – 2:00 pm	Synchronized Measurement Working Group (SMWG) update: Tim Fritch (TVA) / 10 minutes
2:00 – 2:10 pm	JSIS update: Hongming Zhang (NREL) / 10 minutes
2:10 – 2:20 pm	IEEE update: Allen Goldstein / 10 minutes
2:20 – 2:35 pm	IEEE PES-TR74: Yi Hu & Ken Martin / 15 minutes
2:35 – 2:40 pm	<b>Break – 5 minutes</b>
2:40 – 3:00 pm	PingThings - Sean Murphy 
	<b>Session # 9 - Advanced distribution system applications</b>
3:00 – 3:20 pm	Preparation of Distribution Circuits for Distribution System State Estimation and Advanced Applications - Muhammad Humayun (EnerNex)
3:20 – 3:40 pm	Design, Development and Field Validation of Sensors with Intelligent Measurement Platform for Monitoring and Control of Distribution Circuits - Niroj Gurung (ComEd)
3:40 – 4:00 pm	Phasor-Based Control for Scalable DER Integration - Sascha von Meier (UC Berkeley)
	<b>Session #10 – Quanta Technology and ORNL DOE Project Update, Life Cycle Management</b>
4:00 – 4:20 pm	Distribution Synchronized Measurements Technology Deployment Roadmap – Julio Romero Aguero (Quanta Technology)/Lingwei Zhan (ORNL)
4:20 – 4:40 pm	CIGRE WG Report: Life Cycle Testing of Synchrophasor Based Systems used for Protection, Monitoring and Control – Mladen Kezunovic (TAMU)

NASPI would like to say “**THANK YOU**” to the following partners for their support

