

2026 Electromagnetic Transient Simulation Workshop

Organizers: Aung Thant (NERC), Suman Debnath (ORNL), Alireza Ghassemian (DOE)

Place: Hilton, Rockville, MD

Event contact	Suman Debnath, 865-341-1467 (office); debnaths@ornl.gov		
Time	Event	Chair(s)	Room
August 18, 2026 (Day-1)			
7:30-8:00 am	WELCOME AND BREAKFAST Badging and Introductions		TBD
8:00-8:30 am	Opening Remarks Initial Introduction: Suman Debnath, Aung Thant Mark Lauby, Senior Vice President, NERC	Aung Thant (NERC)	TBD
8:30-9:00 am	Keynotes: • Catherine Jereza, OE Assistant Secretary (confirmation pending) • Gil Bindewald, OE Principal Deputy Assistant Secretary (confirmation pending)	Alireza Ghassemian (DOE)	TBD
9:00-9:15 am	Break		
9:15-11:00 am	Industry Keynotes: • Kal Ayoub, Director, FERC • Casey Cathey, Vice President, SPP • Emanuel Bernabeu, Senior Director, PJM • J P Skeath, Manager, NERC • “Large load integration, challenges with respect to planning/integration/operations, and example use cases”, David Mueller, Vice President, Enernex • Ibukun Korede, QTS Data Center (confirmation pending)	Aung Thant (NERC)	TBD
11:00 am – 12:00 pm	WORKING LUNCH: Demo Sessions with Posters	Laura Touton (ORNL)	TBD
12:00 pm-1:00 pm	Initiative Overview: Alireza Ghassemian, DOE Aung Thant, NERC Suman Debnath, ORNL	Suman Debnath (ORNL)	TBD

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1:00 pm – 2:45 pm	Technical Session 1: “WG1 Activities Overview & Large Load Integration Process White-Paper Review – Summary of Large Load Integration Process”, Marcelo Elizondo, PNNL - NERC Updates on Large Load Integration “Large-EMT Dynamic Simulations for Resource Integration: Load Modeling Challenges”, Ricardo Orfei, MEPPI “Challenges with Large Load Integration & EMT Needs”, Spencer Coffman, SPP “Large Computational Load Integration Process in ERCOT, & EMT Modeling Challenges”, Ali Yazdanpanah, ERCOT	Marcelo Elizondo (PNNL), Mostafa Sedighizadeh (SPP)	TBD
2:45 pm – 3:00 pm	Break		
3:00 pm – 4:45 pm	Technical Session 2: “WG2 Activities Overview & Large Load Models/Benchmark Models”, Nilanjan Ray Chaudhuri, PSU “Study-driven CIM Architecture”, Glen Halley, City Utilities of Springfield “Benchmark Models”, Fahmid Sadeque, PNNL “HVdc Studies in EMT”, Felipe Sobrinho, Hitachi Energy “Large Load Models & Disturbance Challenges Observed”, Rahul Chakraborty, Dominion Energy	Nilanjan Ray Chaudhuri (PSU), Shamim Hasan (ORNL)	TBD
4:45 pm – 5:00 pm	Break		
5:00 – 7:00 pm	Evening Social and Poster Session		TBD

Time	Event	Chair(s)	Room
August 19, 2026 (Day-2)			
7:30-8:00 am	WELCOME AND BREAKFAST Badging and Introductions	Laura Touton	TBD
8:00-9:00 am	Industry Session: Regulatory/Compliance Updates - MOD-32/FAC-2/TPL - EMT WG 6	<i>Industry Members</i>	TBD
9:00-11:00 am	Technical Session 3: "Model Requirements & Needs", Mostafa Sedighzadeh, SPP "Large loads/BESS and E-STACOM integration", Cesar Galvez, Siemens Energy "Data Center Models in PSCAD: Studies with Co-located Generation", Brett Ross, PNNL "Load Modeling & Usage", Parag Mitra, EPRI "Advanced Data Center Model", Maryam Saeedifard, GIT "RE-INTEGRATE: Large Load Models", Shamim Hasan, ORNL	Nilanjan Ray Chaudhuri (PSU), Shamim Hasan (ORNL)	TBD
11:00 am-12:30 pm	WORKING LUNCH: Demo Sessions with Posters		TBD
Afternoon session only for attendees registered for tutorials			
12:30-1:20 pm	Tutorial: BASICS - Session-1: Introduction to EMT Simulation and Component Modeling: Theory		TBD
12:30-1:20 pm	Tutorial: ADVANCED - Session-1: Model Quality Testing: Theory		TBD
1:30-2:20 pm	Tutorial: BASICS - Session-1: Introduction to EMT Simulation and Component Modeling: Hands-On		TBD
1:30-2:20 pm	Tutorial: ADVANCED - Session-1: Model Quality Testing: Hands-On		TBD
2:20-2:30 pm	Break		TBD
2:30-3:20 pm	Tutorial: BASICS - Session-1: Introduction to EMT Simulation and Component Modeling: Hands-On (Contd..)		TBD
2:30-3:20 pm	Tutorial: ADVANCED - Session-2: Disturbance Ride-Through Testing: Theory		TBD

Time	Event	Chair(s)	Room
August 19, 2026 (Day-2)			
3:30-4:20 pm	Tutorial: BASICS - Session-2: Inverter Modeling and Simulation: Theory		TBD
3:30-4:20 pm	Tutorial: ADVANCED - Session-2: Disturbance Ride-Through Testing: Hands-On		TBD
4:30-5:00 pm	Wrap Up		TBD

* *Basic tutorial will include material on fundamentals of EMT simulations, EMT component models, inverter models (PSCAD)*
 * *Advanced tutorial will include material on model quality, parallelism, advanced automation, and system-level simulations (PSCAD) – pre-requisite is having taken basic tutorial or being well versed with content from basic tutorial*

Time	Event	Chair(s)	Room
August 20, 2026 (Day-3)			
7:30-8:00 am	WELCOME AND BREAKFAST Badging and Introductions		TBD
8:00-9:15 am	Industry Session: Regulatory/Compliance Updates • EMT WG 9, 10, LLWG	<i>Industry Members</i>	TBD
9:20-11:20 am	Technical Session 4: Solvers • “Current State-of-the-art Parallelism Practices in Large Scale EMT Simulation of Power Grids”, Sarina Adhikari, MEPI • “WG3 Activities Overview & Solvers/Integrators Way Forward”, Carol Woodward, LLNL • “Solvers in RE-INTEGRATE”, Phani Marthi, ORNL • “BTD Detection & Re-ordering”, Sumit Paudyal, FIU • “Integrators in RE-INTEGRATE”, Francis Joseph, ORNL • “Stiffness Detection Method”, David Gardner, LLNL	Carol Woodward (LLNL), Phani Marthi (ORNL)	TBD
11:00 am-12:30 pm	WORKING LUNCH: Demo Sessions with Posters		TBD
Afternoon session only for attendees registered for tutorials			
12:30-1:20 pm	Tutorial: BASICS - Session-2: Inverter Modeling and Simulation: Hands-On		TBD
12:30-1:20 pm	Tutorial: ADVANCED - Session-3: EMT Simulation Efficiencies and Automation: Theory		TBD
1:30-2:20 pm	Tutorial: BASICS - Session-2: Inverter Modeling and Simulation: Hands-On (Contd..)		TBD
1:30-2:20 pm	Tutorial: ADVANCED - Session-3: EMT Simulation Efficiencies and Automation: Hands-On		TBD
2:20-2:30 pm	Break		TBD
2:30-3:20 pm	Tutorial: BASICS - Session-3: Generation Plant with Inverter Modeling: Theory		TBD
2:30-3:20 pm	Tutorial: ADVANCED - Session-4: Advanced Plant Modeling: Theory		TBD

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Time	Event	Chair(s)	Room
August 20, 2026 (Day-3)			
3:30-4:20 pm	Tutorial: BASICS - Session-3: Generation Plant with Inverter Modeling: Hands-On		TBD
3:30-4:20 pm	Tutorial: ADVANCED - Session-4: Advanced Plant Modeling: Hands-On		TBD
4:30-5:00 pm	Wrap Up		TBD

** Basic tutorial will include material on fundamentals of EMT simulations, EMT component models, inverter models*

** Advanced tutorial will include material on model quality, parallelism, advanced automation, and system-level simulations – pre-requisite is having taken basic tutorial or being well versed with content from basic tutorial*

Time	Event	Chair(s)	Room
August 21, 2026 (Day-4)			
7:30-8:00 am	WELCOME AND BREAKFAST Badging and Introductions	Laura Touton	TBD
8:00-9:15 am	Technical Session 5: Features “Roadmap for WG4 & Impact”, Amarsagar Reddy, ASU “Streamlining EMT Studies Using PSAPPS”, Om Nayak, Nayak Corporation “LLM in EMT”, Yousu Chen, PNNL	Amarsagar Reddy (ASU)	TBD
9:15-9:30 am	Break		
9:30-11:00 am	Technical Session 6: “Leveraging iterative solvers for accelerating EMT simulations”, Amarsagar Reddy, ASU “Performance Analysis & Approximate Solvers in EMT”, David Gleich, Purdue University “SuperLU & Its Impact in EMT”, Tianyi Shi, LBL “State Partitioning of Stiff Switched Systems”, Nilanjan Ray Chaudhuri, PSU	<i>Academic Members</i>	TBD
9:30-11:00 am	Technical Session 7: “Control Design in EMT”, Nilanjan Chaudhuri, PSU “Grid Strength & Analytics”, Venkataramana Ajjarapu, ISU “Stability in Power Grids using EMT”, Jian Sun, RPI - TBD, EPRI	Maryam Saeedifard (GIT)	TBD
11:00 am-12:30 pm	WORKING LUNCH: Demo Sessions with Posters		TBD
Afternoon session only for attendees registered for tutorials			
12:30-1:20 pm	Tutorial: BASICS - Session-3: Generation Plant with Inverter Modeling: Hands-On (Contd..)		TBD
12:30-1:20 pm	Tutorial: ADVANCED - Session-4: Advanced Plant Modeling: Hands-On (Contd..)		TBD
1:30-2:20 pm	Tutorial: BASICS - Session-4: Introduction to Automation: Theory		TBD
1:30-2:20 pm	Tutorial: ADVANCED - Session-5: System Level EMT Simulation: Theory		TBD

Time	Event	Chair(s)	Room
August 21, 2026 (Day-4)			
2:20-2:30 pm	Break		TBD
2:30-3:20 pm	Tutorial: BASICS - Session-4: Introduction to Automation: Hands-On		TBD
2:30-3:20 pm	Tutorial: ADVANCED - Session-4: System Level EMT Simulation: Hands-On		TBD
3:30-4:20 pm	Tutorial: BASICS - Session-4: Introduction to Automation: Hands-On (Contd..)		TBD
3:30-4:20 pm	Tutorial: ADVANCED - Session-4: System Level EMT Simulation: Hands-On (Contd..)		TBD
4:30-5:00 pm	Wrap Up		TBD

** Basic tutorial will include material on fundamentals of EMT simulations, EMT component models, inverter models*

** Advanced tutorial will include material on model quality, parallelism, advanced automation, and system-level simulations – pre-requisite is having taken basic tutorial or being well versed with content from basic tutorial*

Each session will have different content in tutorials and all tutorial registered participants are encouraged to attend all the sessions.