

Electromagnetic Transient Simulation Workshop

Organizers: Aung Thant (NERC), Suman Debnath (ORNL)

Place: Bridgewater Hospitality Collective, 205 Bridgewater Rd, Knoxville, TN 37923

Event contact	Suman Debnath, 865-341-1467 (office); debnaths@ornl.gov	
Time	Event	Lead
Tuesday, October 7, 2025		
8:00-8:30 am	WELCOME AND BREAKFAST SERVED Badging and Introductions	Laura Touton
8:30-9:00 am	Working Breakfast: Opening Remarks Initial Introduction: Suman Debnath	Philip Bingham (Division Director, ORNL)
9:00-9:30 am	Keynotes: Program and Research Overview Chair: Suman Debnath	Suman Debnath (ORNL)
9:30-9:45 am	Break	
9:45-11:30 am	Industry Keynotes: Need for EMT, Coordinated Activities, Challenges Chair: Aung Thant	Nick Parker (Southwest Power Pool [SPP]) Latrice Harkness (North American Electric Reliability Corporation [NERC]) Andrew Arana (Florida Power & Light [FPL])
11:30 am-12:30 pm	WORKING LUNCH: Q&A from keynotes and discussions	Laura Touton
12:30-1:00 pm	NERC EMT WG: Work Items Update Working Groups Overview for EMT	Aung Thant (NERC) Suman Debnath (ORNL)
1:00-1:45 pm	Working Group 1: Applications & Pilots	Harvey Scribner (SPP) Marcelo Elizondo (PNNL), Peter Hoang (ORNL)
1:45-2:30 pm	Working Group 2: Input Data Structures & Models	Adedasola Ademola (Dominion Energy) Nilanjan Chaudhuri (PSU), Rahul Mishra (ORNL),

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2:30-2:45 pm	Break	
2:45-3:30 pm	Working Group 3: Solvers	Ricardo Orfei/Sarina Adhikari (MEPPI) Carol Woodward (LLNL), Qianxue Xia (ORNL)
3:30-4:15 pm	Working Group 4: Features/Automation/Post-Processing	Ali Yazdanpanah (ERCOT) Shrirang Abhyankar, Phani Marthi (ORNL), Qianxue Xia (ORNL)
4:15-5:00 pm	Working Group 5: Training & Workforce Development	Aung Thant (NERC) Maryam Saeedifard (Georgia Tech), Sumit Paudyal (FIU)
5:00-5:30 pm	Wrap-Up	Suman Debnath (ORNL)

Time	Event	Lead
Wednesday, October 8, 2025		
8:00-8:30 am	WELCOME AND BREAKFAST SERVED Badging and Introductions	Laura Touton
8:30-9:00 am	Working Breakfast: IEEE ITS LC EMT Whitepaper	Kevin Chen (Duke Energy)
9:00-10:15 am	Technical Session-1: Input Data Structures in EMT Chair: Nilanjan Chaudhuri (PSU), Rahul Mishra (ORNL)	Glen Halley (City Utilities of Springfield), Thomas McDermott (Meltran), Ricardo Orfei (MEPPI)
10:15 – 10:20 am	Break	
10:20 -11:35 am	Technical Session-2: Features/Tools Support for EMT Chair: Phani Marthi (ORNL), Brendan James Preece (Southern Company)	Fred Waugh (MIT LL), Amar Reddy (ASU), Tamer Ibrahim (EPRI)
11:35 am-1:00 pm	Introduction to Demos WORKING LUNCH: Demo Session-1 (EMT software)	Suman Debnath (ORNL) Shamim Hasan, Phani Marthi, Md Shamim Hasan, Peter Hoang, Qianxue Xia, Harry Hughes, Rahul Mishra (ORNL)
1:00 – 1:15pm	GRID-C Overview	Madhu Chinthavali (ORNL)
Afternoon session below only for attendees registered for tutorials		
1:15-1:35 pm	Keynote: EMT Training Needs	Alex Shattuck (ESIG)
1:35-3:20 pm	Tutorial-1.1: EMT Simulation Basics: Theory, Different Software, Hands-On	Suman Debnath (ORNL), Md Shamim Hasan (ORNL), Phani Marthi (ORNL)
3:20-3:30 pm	Break	
3:30-5:30 pm	Tutorial-1.2: EMT Simulation Basics: Component Modeling, Hands-On	Alex Shattuck (ESIG), Aung Thant (NERC), Md Shamim Hasan (ORNL), Phani Marthi (ORNL)

Time	Event	Lead
Thursday, October 9, 2025		
8:00-8:30 am	WELCOME AND BREAKFAST SERVED Badging and Introductions	Laura Touton
8:00-9:45 am	Technical Session-3: EMT for Large Loads Working Breakfast: 8:00am – 9:00am Chair: Gad Ilunga (Dominion Energy), Yenpo Ho (Oncor Electric Delivery)	Alex Shattuck (ESIG), Hasala Dharmawardena (NERC), Mostafa Sedighizadeh (SPP), Ali Yazdanpanah (ERCOT)
9:45-10:00 am	Break	
10:00-11:20 am	Technical Session-3: EMT for Large Loads Chair: Gad Ilunga (Dominion Energy), Yenpo Ho (Oncor Electric Delivery)	Nick Giffin (Elevate), Bob Arritt (EPRI), Yashodhan Agalgaonkar (NREL)
11:20 am-1:00 pm	WORKING LUNCH: Demo Session-2 Continued	Shamim Hasan, Phani Marthi, Md Shamim Hasan, Peter Hoang, Qianxue Xia, Harry Hughes, Rahul Mishra (ORNL)
Afternoon session below only for attendees registered for tutorials		
1:00-2:50 pm	Tutorial-2.1: Inverters in EMT Simulation Basics: Inverter hardware, Software, Hands-On	Alex Shattuck (ESIG), Aung Thant (NERC), Md Shamim Hasan (ORNL), Phani Marthi (ORNL)
2:50-3:00 pm	Break	
3:00-5:00 pm	Tutorial-2.2: Inverters in EMT Simulation Basics: Generation hardware, PPC, Hands-On	Alex Shattuck (ESIG), Aung Thant (NERC), Md Shamim Hasan (ORNL), Phani Marthi (ORNL)