

Distribution System Analysis Training Workshops

New Delhi, September 26th – 29th 2022

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The Energy & Resources Institute (TERI), Darbari Seth Block, India Habitat Centre Complex, Lodhi road, New Delhi - 110003

New Delhi, September 26th – 28th 2022

REGISTER HERE: <https://nrel.github.io/ciff/> *In-Person and Virtual Attendance Available*

About: The National Renewable Energy Laboratory (NREL) has been working with DISCOMs across India on Smart Grid solutions for integrating Distributed Energy Resources (DERs) on to the electricity distribution network. This work has involved leveraging emerging geographical information system (GIS) data to model DISCOM distribution feeders, modeling the potential rooftop solar resource, examining smart inverters, energy storage, and demand response. NREL will be providing in-person training in New Delhi in September, offering engineers, researchers, and technical experts the chance to learn from NREL engineers and get hands-on experience using open-source NREL tool and analysis. Please register for the workshop by emailing Killian.McKenna@nrel.gov. Participants are encouraged to bring the laptops to participate in working sessions where NREL engineers will help attendees install and work through example problems.

Day, Time	Agenda
Monday, September 26th 10:00-15:30	10:00-12:00: Distribution networks: Assessing the opportunities and challenges of solar integration for India DISCOMs 13:30-14:15 Session 2: The Value of Modeling and Analysis for Distributed Energy Resource Integration for India DISCOMs 14:15-15:30 Session 3: Working Session – Bring Your Laptop – Introduction to Open-Source Power-Flow Models: Voltage Quality and Loss Assessment
Tuesday, September 27th 10:00-15:30	10:00-12:00 Session 1: Power-Flow Model Requirements: Populating the Model, the role of GIS, Billing and Irradiance Datasets 13:30-15:00 Session 2: Working Session – Bring Your Laptop – Demonstration Snap-Shot and Time-Series Power-Flow Tools for Solar Integration
Wednesday, September 28th 10:00-15:30	10:00-12:00 Session 1: Smart Inverter Functions and Interconnection Standards, Solar Integration and Interconnection Processing 13:30-15:00 Session 2: Working Session – Bring Your Laptop – Introduction to Using Python to Visualize Solar Integration in Power-Flow Applications 15:00-15:30 Session 3: Other NREL Tools for DISCOMs; Net Load Profile Modeling, Time-of-Use Tariffs and Synthetic Distribution Network Models 15:30-16:30 Session 4: Open-Session Q&A and Hands-On

Presenter Biographies:



Dr Killian McKenna is a member of the Distribution Edge Group in the Grid Planning and Analysis Center at the National Renewable Energy Laboratory (NREL) where he leads research into distributed energy resources (DERs), electrical distribution system planning and operation, and demand-side resources. Dr McKenna joined NREL in 2018 and as a principal investigator he has led projects on smart inverters, DER and solar PV integration, lithium-ion and flow battery energy storage, demand-side management, customer modeling, and volt-VAR optimization. He is an R&D 100 Award winning researcher and has worked with utilities across the U.S. (Hawaii, California, Arizona and New York) and internationally. He holds a Bachelor of Electrical Engineering and Doctor of Philosophy in Electrical Engineering both from University College Dublin, Ireland. His expertise includes modeling and simulation, field data analysis, technoeconomic analysis and laboratory testing of distributed energy resources.



Mr Erik Pohl is a research engineer within NREL's Grid Planning and Analysis Center at the National Renewable Energy Laboratory (NREL). His research focus is distribution system modeling and DER integration. Erik began his professional career as a distribution engineer at a major U.S. utility, becoming intimately familiar with the challenges of maintaining a reliable distribution system in today's climate of rapid technological change. Erik joined NREL in May of 2022, and he holds a Bachelor's Degree in physics from Colgate University and a Master's Degree in mechanical engineering from The University of Colorado, Boulder.