

**October 2024**

<https://site.ieee.org/rockrivervalley/>

**Rock River Valley Section**

**Event**

**Sense**

The Institute of Electrical and Electronic Engineers, Inc.

IEEE RRV Section, EMC/IAS Chapter, WIE, LM and YP Affinity Group Meeting  
*SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN*

**WHEN** Thursday, October 24, 2024

**WHERE:**

**3761 S. Central Avenue  
Rockford, Illinois  
United States 61102**

**AGENDA**

4:30 – Sign in and Tour starts  
6:00- 7:15 pm: Social time, dinner  
7:15- 8:30 pm: Presentation



# **Effects of Wind Turbine Grounding System Interconnection on Electromagnetic Transients Caused by Lightning**

**Dr. Yarú Méndez**

The presentation will provide an introduction to wind parks and modern wind turbine components and topologies. Then we will discuss testing and modeling of lightning strike effects in modern Composite Fiber Reinforced Polymer (CFRP) Rotor Blades and wind turbines. This is an essential step in wind park and turbine design, manufacturing, and certification. Lightning effects may impose additional requirements for the reliable operation of the low voltage and medium voltage grid against surges.

This talk is based on two standards for wind turbines and generators. Part 24 of both standards governs lightning protection. The latest editions of standards IEC-61400-24 Ed. 2.0 (2019) and IIS C 1400-24:2023 recommend connecting the grounding systems of the individual wind turbines and the substation all together using horizontal grounding conductors. This will form an overall wind farm earthing system. The objective is to reduce abnormal earth potential distribution effects, and to mitigate dangerous overvoltage effects.

An extensive comparison of these effects will be presented and discussed in depth with the audience.

**Please register online at  
<https://events.vtools.ieee.org/m/427927>**

**Biography:**

Yarú Méndez is engaged as a principal engineer at the wind turbine blade manufacturer LM Wind Power (A GE Vernova company) in Denmark and as a lecturer in electrical engineering (EE) at the Universidad Simón Bolívar (USB) in Venezuela. The main focus of his professional and academic activity is power systems and renewable energy based power generation.

Previously, he was Director of Engineering at the company Raycap GmbH in Germany and Research Engineer at the company General Electric Global Research (GEGR) in Germany. His primary responsibilities included renewable energy based systems (wind and solar) and their interaction to the grid with a main focus on electromagnetic transients.

Concerning his education, he earned a degree in electrical engineering in power systems from the Universidad Simón Bolívar (USB), a Dr.-Ing. Degree from the University of Kassel (UNIK) in Germany, and an MBA degree from the University of Applied Sciences Munich (HM) in Germany. Currently, he holds 20 patents and has published 60 scientific publications as author and coauthor.