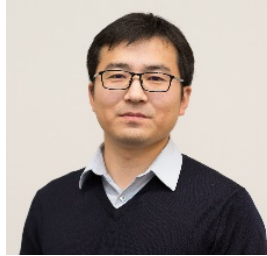


DEPARTMENT OF CHEMICAL & MATERIALS ENGINEERING

Shires Graduate Research Seminar Series
College of Engineering
New Mexico State University, Las Cruces, NM 88003

Learning-based Control and Decision Making in High Renewable Penetrated Energy Systems



Dr. Di Shi

NMSU Klipsch School of Electrical and Computer Engineering

E-mail: dshi@nmsu.edu

Renewables are transforming power and energy systems, posing grand challenges to system operations. Increasing data with critical operational insights on the other hand, offers new opportunities in addressing these challenges. However, there is no effective approaches which can collect and synthesize massive measurements from tens of thousands of smart sensors over wide areas to make timely decisions on how to best allocate energy resources. This talk presents a data-driven and learning-based framework for autonomous power systems, and a corresponding software platform named Grid Mind. As recently Grid Mind has been deployed at multiple grid dispatch centers, results from the real world will be discussed as well.

Location: Jett Hall Room 259
Time: 1:30pm-2:20pm
Date: Friday, February 3rd, 2023
Zoom:
<https://nmsu.zoom.us/j/94386321031>

Speaker Bio: Di Shi is an Associate Professor with the Klipsch School of Electrical and EComputer Engineering. He founded a tech Startup and commercialized two technologies. He was the Director of Fundamental R&D Center and Department Head of AI & System Analytics at GEIRINA. He received his Ph.D. and M.S. degrees from Arizona State University (ASU), and a B.S. degree from Xi'an Jiaotong University, all in EE. Prior to GEIRINA, he held research positions at NEC Laboratories America (NECLA), Electric Power Research Institute (EPRI), and ASU. He serves/served as Editor of IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid and IEEE PES Letters,

and guest Editor-in-Chief/editor for multiple special issues on AI, data analytics, and power electronics-enabled power systems. He was chair of IEEE PES San Francisco Chapter, and past vice chair of System Stem at PSERC. He is chair of the IEEE Task Force (TF) on IoT for Power Systems and secretary of IEEE Working Group on Machine Learning for Power Systems. He has published over 160 papers and holds 25 patents. He led his team to win the championship of 2019 power system AI competition "Learning to Run a Power Network (L2RPN)". He received 8 best paper awards and 1 best paper finalist (top 5) award from various journals and conferences, an IEEE PES Outstanding Engineer Award from San Francisco Chapter, and multiple awards for technology commercialization from NECLA and GEIRINA.



BE BOLD. Shape the Future.
New Mexico State University
www.nmsu.edu