

**RAL SEMINAR SERIES****Modeling Sustainable and Resilient Cities:  
Opportunities for Climate Prediction****Dr. Wangda Zuo**

Pennsylvania State University/NREL

**Wednesday, July 13, 2022****1:00 PM 2:00PM**FL2-1022 | <https://operations.ucar.edu/live-ral>

This presentation will discuss the needs of both short-term local weather and long-term climate prediction for the modeling of sustainable and resilient cities from an energy infrastructure system modeler's point of view. Dr. Zuo will introduce some of the ongoing DOE and NSF projects in developing open-source models for sustainable and resilient cities. These tools have been applied in various real-world applications, such as reducing energy consumption via net zero energy communities, minimizing building carbon emissions via emission conscious operation, retrofitting existing buildings for long-term energy and emission reduction, improving outdoor environmental quality via urban farming in Indonesia, and increasing the resilience of our energy systems for an island community in Florida after a Hurricane. During the discussion, we will reveal the importance and opportunities of having good short-term weather prediction and long-term climate prediction in our energy infrastructure models in those applications.

Dr. Zuo is a Professor in Architectural Engineering and the Associate Director for Research of Global Building Network which is an initiative of Penn State and United Nation on high performance buildings. Dr. Zuo also holds a joint appointment in the Communities and Urban Science Group at the National Renewable Energy Laboratory (NREL) and was a former Scientist at Lawrence Berkeley National Laboratory (LBNL). He is currently an Associate Editor of Journal of Solar Energy Engineering and Treasurer of International Building Performance Simulation Association (IPBSA). Dr. Zuo is the recipient of IBPSA Fellow, ASCE ExCEED Fellowship, IBPSA-USA Emerging Professional Award, Eliahu I. Jury Early Career Research Award, and ASHRAE Distinguished Service Award. He is a major contributor to multiple open-source building and community energy modeling tools, including LBNL's Modelica Buildings library and NREL's URBANopt.