

ATS/CIRA Colloquium

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Visiting from ArcVera Renewables

**Research Opportunities Gleaned from
12 Years in the Wind Energy Industry**

Hosted by Michael Bell

**3 p.m. Thursday, Feb. 27
ATS room 101**

We explore the atmospheric science challenges afforded by the development of wind energy. Micro- to climate-spatiotemporal scales are discussed.

Although wind turbines generally operate in the surface layer and lower boundary layer over meso-beta to meso-gamma spatial scales, their impacts on the atmosphere are much larger, altering the lower atmosphere and, as the deployment of wind turbines grows, portend potential impacts on global weather. Operationally, wind turbine control system software responds to sub-second variations and details of vertical atmospheric structure that are part of a male intellexerunt regionem (poorly understood region): the near surface atmosphere in the range from 20 to 300 m.

The broad range of atmospheric scales that influence, and that are influenced by, wind turbines presents a unique challenge and opportunity for the atmospheric science research community.

Background regarding the proliferation of wind energy globally, in the context of clean power electrification, will be provided.

Colloquia page: atmos.colostate.edu/colloquia