



The Math/Stats Colloquium  
Department of Mathematics and Statistics  
San José State University



## Shane D. Mayor

Chico State

*Measuring the vector wind field  
near the surface of the earth*

WED SEP 28, 2022, VIA ZOOM

**Abstract:** Most wind measurements are made with anemometers attached to towers, providing a time series of wind speed and direction at one point in space. However, for many practical problems, wind measurements are needed simultaneously at many points over a broad area. One solution is to use atmospheric lidar to create a sequence of images of particulate matter and derive the vector flow field using motion estimation algorithms. This computer vision approach provides 2-component vector flow fields over areas of several square kilometers at a spatial resolution on the order of 10m and time resolution on the order of 10s. The seminar will describe work currently underway to apply this technology to current research in atmospheric science.

*Background:* Accessible to all undergraduates in natural sciences.

**About the speaker:** Shane Mayor holds a PhD in atmospheric and oceanic sciences from U. Wisconsin-Madison. He worked at the National Center for Atmospheric Research (NCAR) and NCAR's Earth Observing Laboratory (EOL) before coming to Chico in 2008. Mayor is currently a professor in the Earth and Environmental Sciences Department at Chico State.

COLLOQUIUM BROADCAST VIA ZOOM, 3:00PM PACIFIC

EMAIL [tim.hsu@sjsu.edu](mailto:tim.hsu@sjsu.edu) FOR AN INVITATION

For our full schedule, see: <http://www.timhsu.net/colloq/>