



## **KATHRYN VERLINDEN**

Oregon State University, College of Earth, Ocean, and Atmospheric Sciences

### **Degrees:**

B.S. with Honors Environmental Science, University of Oregon  
B.S. with Honors Geography, University of Oregon  
M.S. Atmospheric Science, Colorado State University  
Ph.D. Atmospheric Science, Oregon State University (in progress)

### **Advisor:**

Simon de Szoeko, Ph.D.

### **Scholar Award Donor:**

Diane and Dick Alexander

### **About the Scholar:**

Kathryn is studying the small-scale turbulent vertical air motions within marine boundary layer clouds using vertically-oriented Doppler radar data. Data have been collected both aboard a ship in the subtropics off the coast of Chile and in the mid-latitudes over a 21-month installation in the Azores. Since the marine boundary layer is still sparsely sampled, this study aids in furthering the understanding of the dynamic processes contributing to the development and duration of boundary layer cloud lifetimes and the early stages of drizzle formation. Outside of school, Kathryn enjoys hiking, running, cycling, and adventures with her husband and their dog.

### **Benefits to Society:**

Low-level clouds, such as these marine boundary layer clouds, remain as one of the largest knowledge gaps in terms of basic components of the Earth's climate system. Furthering our understanding of how these clouds develop, interact with the Earth's radiation budget, and interact with the oceans allows for better modeling of clouds and climate processes. Improving these models will allow for increased understanding of Earth's current, past, and future climates.

### **Awards and Honors:**

Phi Kappa Phi  
Phi Beta Kappa  
Gamma Theta Upsilon  
Presidential Scholar, University of Oregon

### **Publications and Posters:**

**Kathryn L. Verlinden**, David W. J. Thompson, and Graeme L. Stephens (2011). "The three-dimensional distribution of clouds over the Southern Hemisphere high latitudes" *Journal of Climate*, 24, 5799-5811.

Simon de Szoeko, **Kathryn Verlinden**, Sandra Yuter, and David Mechem. "Vertical velocity retrievals in stratocumulus clouds" Poster presentation 2013 Atmospheric Science Research (ASR) Science Team Meeting, Potomac, MD, March 18-21, 2013.

**Kathryn L. Verlinden** and Simon P. de Szoeko. "Air vertical velocity distributions of trade cumulus and stratocumulus from the ARM Mobile Facility CAP-MBL campaign" Poster presentation 2013 American Geophysical Union Fall Meeting, San Francisco, CA, December 9-13, 2013.