

## PHYSICS COLLOQUIUM: Cyclone of a Cell: Single Vortex Studies

Date: **2/14/20**

Time: **10:30–11:50 AM**

Location: **COB2 140**

**Rena Zieve**

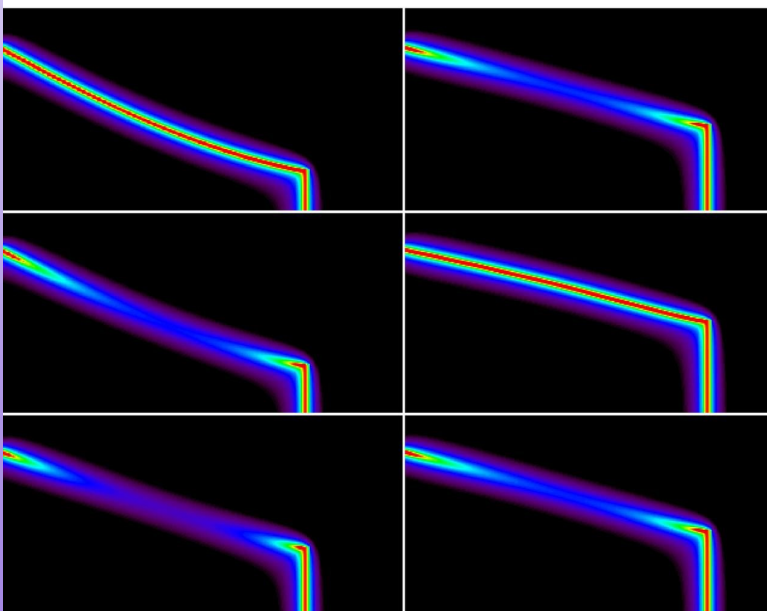
Professor of Physics

University of California, Davis

For more information,  
contact : **Dustin Kleckner**  
[dkleckner@ucmerced.edu](mailto:dkleckner@ucmerced.edu)

### Abstract

Superfluid helium supports well-defined vortices with quantized circulation. Despite the quantization, vortex behavior obeys the same rules governing classical vortices -- with simplifications, since quantization forbids many of the motions allowed in the classical case. Our measurement technique allows tracking of single superfluid vortices. I will describe several of the characteristic behaviors we observe, with particular emphasis on vortex oscillations and their connection to superfluid turbulence.



### About the Speaker

Professor Zieve received her PhD from UC Berkeley in 1992. After postdoctoral work at the University of Chicago and Yale University, she joined the UC Davis faculty in 1996. She does primarily low-temperature



research. As well as superfluid helium, this includes exploring the phase diagrams of strongly correlated electron systems under pressure and magnetic field. In addition to her own research, she started a Physics REU Program in 2004 and has directed it since then, and she organized an APS Conference for Undergraduate Women in Physics at UC Davis in 2019. She is currently Chair of the Physics Department.