

**ATS/CIRA Colloquium**

**Coty Jen**

**from Carnegie Mellon University**

**Hosted by Jeff Pierce**

**3 p.m. Thursday, Jan. 26**

**ATS 101 and Zoom**

**Sulfuric acid-driven new particle formation in the atmosphere**

Sulfuric acid is essential for atmospheric nucleation and originates from anthropogenic and biogenic sources. Experimental evidence is presented on how sulfuric acid reacts with a wide variety of compounds to form stable particles at different rates. A recently developed nucleation potential model is then used to capture how complex mixtures enhance sulfuric acid nucleation rates. This model is applicable across diverse environments to predict nucleation rates and provides a method to easily measure the nucleation potential. This model is then leveraged to develop a reactive condensation particle counter to measure gas-phase nucleation precursors including sulfuric acid. Details of this instrument and comparison observations with chemical ionization mass spectrometry will also be shown.

Colloquia page: [atmos.colostate.edu/colloquia](https://atmos.colostate.edu/colloquia)