



# ATOC COLLOQUIUM

## Welcome!

Please join us for the next ATOC Colloquium of the fall semester on **Friday, October 28** from **11:00 AM–12:00 PM**, which will be held in **SEEC S228 and simulcast over Zoom**. This week's colloquium features **Dr. Alia Khan (Western Washington Univ.)**. Please join us for coffee beginning at 10:45 AM and stay for lunch catered by Illegal Pete's afterwards.

## From Field Sites to Satellites: Exploring the Role of Black Carbon and Algae on Snow Albedo and Melt in a Changing Climate

The cryosphere is experiencing dramatic change. Intensifying wildfire seasons are enhancing the production and deposition of black carbon on snow and ice surfaces. Additionally, snow algae are ubiquitous in some seasonal snowpacks, such as across the North Cascades and West Antarctic Peninsula. The presence of snow algae blooms and light absorbing particles, like black carbon, enhance the absorption of solar radiation by snow and ice surfaces. I will discuss the interdisciplinary approaches that my students, colleagues, and I are taking to combine snowpack biogeochemistry and optical remote sensing, to study the radiative forcing of snow algae and light absorbing particles and their impact on snow melt. With support from NSF and NASA, we are developing novel tools to investigate the spatial and temporal distribution of snow algae, black carbon and dust across the cryosphere, their response to climate warming, and their role in regional snow and ice melt.



**Location:** SEEC S228 & Zoom

**Zoom:**

<https://cuboulder.zoom.us/j/97845417945>

**Password:** ATOC

## About the ATOC Colloquium

The Department of Atmospheric and Oceanic Sciences (ATOC) Colloquium is typically held **every other Friday** from **11:00 AM–Noon**. Colloquia alternate between the following formats: (A) Full-length talk by a faculty member or invited speaker, (B) Three conference-length talks by graduate students. If you would like to nominate a speaker (including self), please email the ATOC Colloquium Committee Chair, Prof. Andrew Winters ([andrew.c.winters@colorado.edu](mailto:andrew.c.winters@colorado.edu)). Please visit [www.colorado.edu/atoc/colloquium](http://www.colorado.edu/atoc/colloquium) for further details.