



ATOC COLLOQUIUM

Welcome!

Please join us for the first ATOC Colloquium of the spring semester on **Friday, January 21** from **11:00 AM–12:00 PM**, which will be held **exclusively over Zoom**. This week's colloquium features ATOC and LASP's own **Sebastian Schmidt**. Please join us for virtual coffee/conversation beginning at 10:45 AM.

Clouds, Photons, and New Missions to Earth – a Glimpse into Atmospheric Radiation Science at ATOC and LASP

I have been telling my students that Earth Radiation Science will be undergoing significant and exciting transformations over the next decade, which they will have the opportunity to shape. On the one hand, many of NASA's Earth observing satellites from the late 1990s/early 2000s are aging and need to be replaced; on the other, technology leaps and science advancements over the past two decades enable entirely new avenues for a deeper and ever more accurate understanding of our climate system. ATOC and LASP have a significant role in this ongoing transformation. From the perspective of my own group, I will highlight some of our contributions to upcoming orbital missions such as NASA Libera, but also to NASA's next aircraft field campaign to the Arctic, ARCSIX (Arctic Radiation-Cloud-Aerosol-Surface Interaction Experiment), planned for 2024. The many opportunities afforded by these missions go well beyond their engineering innovations. My students are currently tackling many of the scientific endeavors that come along with them – among others the detection of clouds in Arctic regions with multi-angle observations, next-generation (machine learning) cloud-aerosol retrievals, and the quantification of Earth radiation budget parameters for new space-borne missions. I will walk through some of these directions, talk about practical applications, and close with a vision for the future.



Location: Zoom

Zoom: <https://cuboulder.zoom.us/j/93794723941>

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. Jan Lenaerts (jan.lenaerts@colorado.edu). Please visit www.colorado.edu/atoc/colloquium for further details.