

ATOC/GEOG/GEOL/INSTAAR welcome you to the Joint Earth Seminar Series (JESS)

Friday, January 15, 2021 – 1:00 PM MT

Optical Properties and Emission Factors of Biomass Burning Aerosols from Sub-Saharan Africa Biomass Fuels

Abstract:

Biomass fuels are extensively used for domestic purposes in Africa, producing a significant atmospheric burden of the resulting aerosols, however, there are no laboratory studies characterizing their optical and chemical properties. There is a clear research need for a wider sampling of fuels from different regions of the world for laboratory studies. This presentation reports work in our laboratory that represents the first laboratory study of the optical and chemical properties of wood fuel samples used commonly for domestic use in Sub-Saharan Africa. Following the introduction of the research activities in our group, details of the experimental approach will be provided. Results of measurements of the size selected optical properties of biomass burning aerosols (BBA) as a function of aging and combustion conditions, emission factors and the impact of combustion conditions on morphology of the particles will be presented. Results of density measurements in mass closure techniques to estimate the temporal resolution of particulate mass concentrations will be presented. Finally results of RDG and T-Matrix modeling used to extract refractive indices of the BBA fractals will be presented.

Dr. Solomon Bililign

*North Carolina Agricultural and Technical
State University*

Zoom:

<https://cuboulder.zoom.us/j/91985979270>

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The **Joint Earth Seminar Series** is co-hosted monthly by ATOC, INSTAAR, Geology, and Geography. For more information on this seminar, please email Andrew Winters (andrew.c.winters@colorado.edu) or visit www.colorado.edu/atoc/colloquium.