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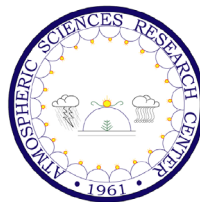
Physical Location:

**Whiteface Mountain Field Station
110 Marble Mtn. Lane
Wilmington, NY 12997**



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**ATMOSPHERIC SCIENCES
RESEARCH CENTER**

Falconer Lectures

Summer 2025

**Tuesdays Biweekly
July 22 - August 19
7:00 pm**

**Whiteface Mountain
Field Station
Wilmington, NY**

Free to the public

JULY 22

The Image is Not the Model

Saikat Chakraborty, Ph.D., Associate Professor of Chemistry, Paul Smith's College

This talk will highlight the research on the generation of carbon-free solar fuels from water, one of the many ways to combat climate change. Saikat will also employ his images, centered mostly around the boreal wetland ecosystems of the Adirondacks, to emphasize the importance of artistic experience and how it diverges from documentation and scientific modeling. The transition from scientific research to creative expression will portray why this divergence is significant, and yet not contradictory to understanding, loving, and caring for these special places.

Born and raised in India, Saikat came to the US to pursue graduate studies. He received his PhD in Chemistry from the University of Rochester where he worked on the generation of carbon-free solar fuels from water. He is a resident of Saranac Lake and has been a faculty member at Paul Smith's College since Fall 2021. When he is not in class teaching Chemistry, he can be found outside with Moose- the dog, and his camera.



AUGUST 5

First Look at Microbiology in Clouds at Whiteface Mountain for the Summer 2024

Sarah Lombardo, Ph.D. Student, Atmospheric Sciences Research Center

Whiteface Mountain (WFM) in northern NY State is the site of a historic mountaintop atmospheric observatory with an ongoing cloud water chemistry monitoring program that has been operating every summer (June through September) since 1994. Though long-term chemical analysis has been conducted, no analysis on the microbiome has been completed at WFM. Over the years, a new chemical regime has been reported in the cloud water with missing analytes. Knowing how microbes can interact with chemicals and chemicals interact with microbes will add another lens of analysis to our cloud water studies.

Starting in 2024, we began microbial analysis of cloud water filters using 16S DNA sequencing with the Oxford Nanopore and have been able to start identifying common microbial species found in WFM clouds. Key attention has been paid to filters collected during times of intense storms and wildfire smoke. Overall, this study seeks to highlight microbially studied filters based on chemical composition and natural disaster significance to offer insight on the connections that can be made among the three.

Sara Lombardo (they/them) started working in the Lance lab in July 2023, prior to starting their graduate studies at UAlbany in the Fall of 2023. Sara has undergraduate degrees in Chemistry and Environmental Sciences from the University of Virginia and found the perfect overlap studying clouds at Whiteface Mountain. Since joining the Lance lab, Sara has been fascinated with the interaction of chemical and microbes in clouds and the impacts these can have on human health as well as nutrient cycling. Sara firmly believes that science must be interlinked with justice and strives to bring that perspective to every aspect of research.

AUGUST 19

Environmental DNA in Action: Monitoring Fish Communities in Northern NY

Carrienne Pershyn, Biodiversity Research Manager, Ausable Freshwater Center | carrie@ausablecenter.org

What can a drop of water reveal about an entire fish community? This talk explores how environmental DNA (eDNA) is a new tool in our toolbox and reshaping the way we monitor native and non-native fish species in the Adirondacks. From detecting elusive brook trout, brown trout, and rainbow trout to tracking Atlantic salmon, American eel, and lamprey in Lake Champlain tributaries, we'll dive into real-world examples of how eDNA metabarcoding helps conservationists map species distributions, evaluate restoration success, and uncover hidden biodiversity—without ever catching a fish.

Carrienne has worked in many capacities for the Ausable Freshwater Center since 2014. In late 2018, she became a full-time research associate for the organization, supporting our Biodiverse Habitats program and monitoring brook trout and other native organisms that rely on Ausable streams. She holds an M.S. in Fish and Wildlife Biology and Management from SUNY College of Environmental Science and Forestry in Syracuse, NY and a B.S. in Ecology from Plattsburgh State University. Her master's thesis research focused on Brook Trout habitat use, recruitment, and population genetics in high elevation, groundwater-fed tributaries of the headwaters of the Ausable River. She is formally trained in natural history and ecology of freshwater habitats, with a variety of past research experience on terrestrial and aquatic wildlife. Her 2018-2019 field projects with AFC include expanding and maintaining a network of temperature loggers across the watershed, designing and implementing eDNA field and lab studies to map the spatial distribution of brook trout and other salmonids, and planning future research projects that focus on Brook Trout ecology and conservation in the Adirondacks. She has worked in Adirondack conservation and lived in the Park for more than a decade, and when not working, can be found adventuring on Adirondack waterways and in wild forests.