Solving Problems with Data Science at Virginia Tech
Summer REU 2024

Data Sciences Project:

Data Sciences in Vienna, Austria: Transport of Biological Particles in the Atmosphere (Schmale Lab)

Project Description:

A portion of this Data Sciences project will be conducted in Vienna, Austria in collaboration with Dr. Hinrich Grothe at the Technical University of Vienna. New robotic technologies with quick turn-around times are needed to understand the transport and fate of biological particles (e.g., pathogens, pollen, toxic cyanobacteria, etc.) in the atmosphere. Students will work to sample and detect biological particles in the atmosphere with drones and ground-based sensors. Environmental data will be collected and analyzed to solve problems related to the sources, aerosolization, transport, and deposition of these agents. Students will come to Virginia Tech for onboarding and training (~1 week), travel to Vienna, Austria with a faculty chaperone (~7 weeks), and return to Virginia Tech for data analysis and conference presentation (~ 2 weeks).

Expected Qualifications of Students:

Students are expected to have a basic understanding of biology and engineering. Experience with robots and/or microbiology desired. Ability to speak German desired, but not required (English is a common language in Vienna). Must possess a valid U.S. passport, or be willing to expedite a passport application.

Faculty Bio:

Dr. David Schmale is a full professor in the College of Agriculture and Life Sciences at Virginia Tech. He received his B.S. from the University of California, Davis, and his Ph.D. from Cornell University.

Website: https://www.schmalelab.spes.vt.edu/ | Twitter & Instagram: @SchmaleLab