HAMPTON UNIVERSITY
THE STANDARD OF EXCELLENCE

Dept. of Atmospheric and Planetary Sciences
PhD and MS Graduate Opportunities in:

Air Quality, Wind Energy, Atmospheric Dynamics and Modeling, Lidar and Radar Remote Sensing, Radiative Transfer Model and Remote Sensing Algorithms

The Hampton University Department of Atmospheric and Planetary Sciences, is seeking students interested in pursuing graduate degrees starting in the Fall of 2024. Prospective students with an interest in atmospheric chemistry and physics, atmospheric dynamics and numerical modeling, laser remote sensing technology, radar remote sensing, radiative transfer models, and remote sensing algorithm development are strongly encouraged to apply. Lidar (elastic, Raman, DIAL, Doppler wind) measurements are integrated to satellite and ground based measurements to reach a thorough understanding of the coupling of chemistry and dynamics in the lower atmosphere (troposphere: 0 to 15 km above surface). Potential research projects include:

- Planetary boundary layer height retrievals from ground based remote sensing and satellite observations
- Offshore Wind Energy Resource Assessment and Power Production Predictions
- Tropospheric trace gases (NO_2, O_3, SO_2, H_2O, etc.) and scanning elastic aerosol lidar instrumentation development
- Remote sensing determination of optical, chemical and physical properties of trace gases for air quality and environmental justice applications
- Atmospheric radiative transfer model development, primarily to support retrieval of aerosol and trace gas properties from satellite measurements in the solar spectrum
- Remote sensing characterization of aerosol properties based on interpretation of polarimetry measurements
- Understanding the fundamental fluid mechanics of extreme weather with a focus on hurricanes using radar remote sensing and numerical simulations
- Understanding the role of turbulence in atmospheric dynamics including stochastic and potentially deterministic components such as coherent turbulent structures
- Validating and improving numerical model simulations of the boundary layer using radar remote sensing measurements from spaceborne, airborne and ground-based platforms.

Prospective students with a background in atmospheric and environmental sciences, chemistry, physics, computer science, remote sensing, mechanical and electrical engineering or other related fields are encouraged to apply. Admitted students will receive full tuition and competitive stipend (>$30,000/yr). Interested candidates should apply online at:

https://home.hamptonu.edu/gradcoll/admission-requirements/

Applicants should contact Drs. Ruben Delgado (ruben.delgado@hamptonu.edu), Robert Loughman (robert.loughman@hamptonu.edu) and Stephen Guimond (stephen.guimond@hamptonu.edu) before applying by sending a copy of their CV and unofficial transcripts.