COLLEGE OF ENGINEERING
THE CHARLES E. VIA, JR. DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
VIRGINIA TECH

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Postdoctoral Research Associate in Bioaerosol Modeling and Remote Sensing

Position Overview: The **AIRFlowS Lab** in the Department of Civil & Environmental Engineering at Virginia Tech is seeking a postdoctoral researcher to work on multiple NASA- and DARPA-funded projects focused on atmospheric bioaerosols. The position centers on advancing dispersion modeling and integrating satellite remote sensing with large-scale atmospheric datasets. This role is ideal for someone with strong experience in aerosol modeling and environmental remote sensing who thrives in fast-paced, interdisciplinary research environments with rapid milestone-driven timelines.

Responsibilities: The postdoctoral researcher will contribute to ongoing efforts involving the development and application of Eulerian and Lagrangian atmospheric dispersion models, including systems such as FLEXPART, HYSPLIT, or CMAQ. The work will also involve using satellite datasets such as MODIS, VIIRS, OMPS, and EMIT, along with reanalysis and forecast products including MERRA-2 and HRRR. A central component of the position will be the processing and analysis of large geospatial datasets, supporting rapid-turnaround modeling deliverables, and collaborating closely with researchers across Virginia Tech as well as external academic and federal partners.

Qualifications: Applicants must hold a Ph.D. in atmospheric science, environmental engineering, or a closely related field. Demonstrated experience with aerosol dispersion modeling and proficiency in scientific programming languages are required. Experience working with aerosol remote sensing products and large-scale atmospheric datasets, including reanalysis systems, is expected, along with strong communication skills and the ability to work both independently and collaboratively.
Preferred qualifications include experience with FLEXPART or HYSPLIT, familiarity with products such as MERRA-2 or comparable reanalysis systems, and prior exposure to data assimilation, model–data fusion, or machine learning approaches.

Appointment Details: The anticipated start date is as early as January 2026, with some minor flexibility depending on candidate availability. The initial appointment is for one year, with the possibility of renewal for an additional one to two years based on performance and funding availability. Salary and benefits are competitive.

Application Instructions: To apply, please submit a cover letter, curriculum vitae, and the names and contact information for three references to Dr. Hosein Foroutan (hosein@vt.edu). Review of applications will begin immediately and continue until the position is filled.