Postdoctoral Researcher in Aerosol Science & Spectroscopy – Naval Research Laboratory

We are looking for a postdoctoral researcher with experience in aerosol science and spectroscopy. Our Advanced Optics Concepts Section at the Naval Research Laboratory (NRL) explores various optical techniques and spectroscopic methods to apply towards characterization of aerosols, primarily in terms of their chemical composition for sensor development. We have an ambient aerosol test facility that is used for long-term aerosol studies and provide test and evaluation support to various agencies. We have explored spectroscopic techniques such as elastic scattering, laser-induced fluorescence, absorption and Raman measurements to probe aerosols, and continue to have interest in new or novel implementations for optical signatures.

Ideal candidates would be experienced in elastic scattering and Raman/SERS spectroscopy with background in aerosol science. Experience with either optical or electrodynamic trapping of aerosol particles would be a plus. A specific project is currently getting started that will involve designing and executing an experiment to measure spectroscopic and chemical properties of trapped aerosol particles. Ability to write software to acquire and analyze data in software such as python, matlab or Labview is also desirable. The candidate will be expected to be able to independently conduct research in these areas, present their results and prepare manuscripts for journal publication.

Key words:

aerosol, spectroscopy, particle trap, Raman, particles, chemical composition, optical signatures, SERS, Surface enhanced Raman spectroscopy, elastic scattering