Research Scientist - Laboratory for Astrophysics and Surface Physics (LASP)

The Department of Materials Science and Engineering at the University of Virginia is seeking outstanding candidates for a one-year full-time Research Scientist position within the Laboratory for Astrophysics and Surface Physics. This position will focus on fundamental laboratory experiments to support Dawn mission observations of Ceres. In addition, the Research Scientist will also contribute to ongoing research concerning the sputtering of planetary analogs and other materials under ion impact.

Primary responsibilities will include characterization of processed and pristine mineral, soil, or condensed-gas surfaces in a vacuum environment using: optical reflectance and transmission spectroscopy (UV-Vis-IR), electron and ion spectroscopies, and mass spectrometry. The candidate will utilize a spectrophotometer with incorporated low-temperature reaction chamber and/or FTIR spectrometer coupled one of several ultrahigh-vacuum chambers within LASP to study physical and chemical effects of mineral surfaces irradiated by charged particles or energetic photons and/or exposed to reactive gases. Experience and interest in planetary science, particularly concerning the interaction of solar wind with lunar and asteroidal regoliths, as well as surface physics and analytical surface characterization by X-ray photoelectron spectroscopy (XPS), Auger-electron spectroscopy (AES), secondary ion mass spectrometry (SIMS), electron energy-loss spectroscopy (EELS), reflectance-absorption infrared spectroscopy (RAIRS), and mass spectrometry is optimal. Sufficient experiential knowledge to maintain ultra-high vacuum instruments and equipment independently is required. Familiarity with quartz-crystal microbalance systems, vapor deposition, Raman spectroscopy, and X-ray diffraction preferred. The successful candidate will be expected to collect, analyze and interpret data, generate and modify computer analytic and instrumentation control code, participate in group or collaboration meetings, write papers and reports, give oral presentations, contribute to proposals and progress reports, and supervise graduate students.

Skills in the following areas are essential: optical spectroscopy from the ultraviolet to the infrared; materials and surface characterization; design, operation, and maintenance of ultrahigh vacuum systems and pumping equipment; experience in the operation of liquid-He cryostats and closed cycled refrigerators, and in ancillary cryogenic techniques; growth by vapor deposition, characterization and analysis of thin films; evidence of good written and oral English language skills.

A Ph.D. in Physics or a related field with at least two years post-doctoral experience is preferred.

To apply, visit https://jobs.virginia.edu and search job posting number 0620346. Complete an online candidate profile and attach a cover letter, detailed curriculum vitae, and contact information for three references.

The University of Virginia is an equal opportunity / affirmative action employer committed to developing diversity in faculty at all levels and welcomes applications from women, minorities, veterans, and persons with disabilities.