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*Department of Environmental Science and Technology*

<http://enst.umd.edu/people/faculty/gurpal-toor>

## Postdoctoral Researcher in Fate and Transport of Phosphorus

**DESCRIPTION:** The Department of Environmental Science and Technology at the University of Maryland seeks candidates for a multi-year postdoctoral research associate position on fate and transport of phosphorus in agricultural landscapes. The initial appointment will be for 1-year with the possibility of extension based on performance.

**POSITION SUMMARY:** The successful candidate will lead a project investigating the cycling and transport of phosphorus from crop production systems in Maryland. Specific duties of this position will include investigating phosphorus losses via surface (and sub-surface) transport pathways from several edge-of-the-field on-farm sites across the state. Sites will be instrumented with H-flumes, ISCO auto-samplers, flow meters, and rain-gauges. The candidate will collect and analyze water, soil, and sediments samples from field sites for various chemical and isotope analyses of phosphorus using Isotope Ratio Mass Spectrometry, Lachat QuickChem 8500 FIA, and others. Potential exists for exploring the use of real-time *insitu* orthophosphate sensors and the oxygen isotope of phosphate ( $\delta^{18}\text{O}_p$ ) to better understand phosphorus cycling, transformations, and transport in crop production systems. The selected candidate will work with field and lab technicians, graduate students, undergraduate students, and postdocs and act as a liaison with the state and federal agencies, farmers, and other stakeholders.

**REQUIRED QUALIFICATION:** A Ph.D. in biogeochemistry, hydrology, ecohydrology, engineering (agricultural, ecological, or environmental), water science, water quality, or a related field with an emphasis on investigating the fate and transport of nutrients. The successful candidate must have completed a Ph.D. within the last 5 years.

**PREFERRED QUALIFICATION/SKILLS:** Demonstrated capabilities in hydrologic or reactive transport modeling; knowledge of phosphorus transport models or phosphorus site indices; experience with field water quality measurement techniques; knowledge of management practices for reducing loss of agricultural phosphorus to surface waters; training and interest in scientific field equipment and instruments; ability to work independently and as part of a team; excellent communication and interpersonal skills for working with diverse stakeholders; strong statistical skills and demonstrated proficiency with R or another statistical program; familiarity with spatial analysis with ArcGIS; and a strong publication record.

**APPLICATION:** Please email a (1) cover letter outlining your interest and qualification, (2) current resume, and (3) unofficial copies of MS and PhD transcripts to Dr. Gurpal Toor ([gstoor@umd.edu](mailto:gstoor@umd.edu)). Position is available immediately and will remain open till a suitable candidate is identified. For best consideration, applications should be received by **March 8, 2019**.

**DEPARTMENT INFORMATION:** The Department of Environmental Science and Technology has 26 faculty with expertise in soil science, ecology, and ecological engineering. The departmental faculty are nationally and internationally recognized for their work on agricultural and environmental issues. The faculty in the department are strategically spread across four cross-disciplinary themes, including soil and watershed science, wetland science, ecological technology design, and ecosystem health and natural resources management. For additional information, see [www.enst.umd.edu](http://www.enst.umd.edu)

**CAMPUS/COLLEGE INFORMATION:** Founded in 1856, University of Maryland, College Park is the flagship institution in the University System of Maryland. Our 1,250-acre College Park campus is just minutes away from Washington, D.C., and the nexus of the nation's legislative, executive, and judicial centers of power. This unique proximity to business and technology leaders, federal departments and agencies, and a myriad of research entities, embassies, think tanks, cultural centers, and non-profit organizations is unparalleled. Synergistic opportunities abound and are virtually limitless. The University has a diverse community of 39,000 students, 9,000 faculty and staff, and 352,000 alumni; all dedicated to the pursuit of Fearless Ideas. Our faculty includes 3 Nobel laureates, 2 Pulitzer Prize winners, 3 Emmy winners, and 2 Tony winners. The University is committed to attracting and retaining outstanding and diverse faculty and staff that will enhance our stature of preeminence in our three missions of teaching, scholarship, and full engagement in our community, the state of Maryland, and in the world. In addition to the renowned research enterprise and programs in academics, arts, and athletics, the university is committed to social entrepreneurship as the nation's first "Do Good" campus. For additional information, see the website at [www.umd.edu](http://www.umd.edu)