

Ph.D. fellowship is available.

We are seeking a highly motivated Ph.D. student interested in studying the interactions among organic molecules, metals, and minerals and scaling these processes to soils, watersheds, regional and global-scale carbon sequestration. Qualifications include a BS and/or MS that provides a strong background both in a field of earth, environmental, or ecological science and in chemistry, geochemistry or biogeochemistry.

Under the overall theme of carbon-metal-mineral interactions, several dissertation projects are available for a selected applicant, including (1) erosion-driven watershed-scale carbon sequestration, (2) anthropogenic acceleration of mineral (sediment) production and weathering, and (3) effects of invasive soil organisms to carbon-mineral interactions and dynamics. The admitted Ph.D. student will be co-advised by [Anthony Aufdenkampe at Stroud Water Research Center](#) and [Kyungsoo Yoo at University of Delaware](#) (alphabetical order). Our combined expertise includes terrestrial to aquatic carbon cycle, organic geochemistry, stable isotope biogeochemistry, soil formation, hillslope geomorphology, and modeling. We also collaborate closely with a network of outstanding scientists with whom graduate students might also interact extensively. In addition to the experience and interests in the cycles of carbon, minerals, and metals, both of us share strong enthusiasm in mentoring graduate students and educating the next generation of earth/environmental scientists who are versatile in connecting and communicating across temporal and spatial scales, across field, laboratory, and modeling approaches, and across different disciplines.

If you are interested, please contact one or both of us for your dissertation research. Indicate your interest in Aufdenkampe-Yoo joint program in your letter of application and statement of research. Detailed information on the application procedure can be found below:

[GRADUATE STUDENT FELLOWSHIPS IN INTERDISCIPLINARY ENVIRONMENTAL SCIENCE/ENGINEERING](#)

Graduate Student Fellowships at the Ph.D level for students matriculating in the Spring or Fall 2008 semesters are available through the Center for Critical Zone Research (CCZR) and the Institute of Soil and Environmental Quality (ISEQ), both interdisciplinary environmental centers of excellence at the University of Delaware. Students have the opportunity to conduct cutting-edge, cross-disciplinary research in environmental sciences and engineering with distinguished faculty in marine and earth studies, soil science, chemistry, physics, environmental microbiology, engineering, and materials science. First-rate laboratory and field facilities are available, along with state-of-the-art core facilities in microscopy, spectroscopy, and biotechnology. Students also have the opportunity to conduct research and internships at national laboratories, state agencies, and nearby industries and environmental centers/institutes. Research areas of particular interest are: mineral/microbe/metal and plant/soil interactions and impacts on contaminant cycling and transformation, **carbon-metal-mineral interactions and effects on C cycling, stabilization, and sequestration**; the role of microbial communities in remineralization and impacts on environmental events such as algal blooms and fish kills; transport of nanoparticles in the critical zone; **biogeochemical mechanisms that control concentrations and fluxes of nutrients, metals, organic chemicals, and pathogens in the CZ** and nearby marine environments; mechanisms of particle formation in coastal regions, including nucleation bursts, and impacts on the local and global environment; interactions of particles, emitted from industrial and agricultural sources, with contaminants and microbes and effects on ecosystem and human health; and development of sensor technology to predict environmental events and processes.

Each fellowship will provide an annual stipend of \$22,000 for up to three years and an additional \$3000 per year for travel to scientific meetings and for other professional development enrichment activities.

Interested students should electronically submit a letter of application, statement of research interest, grade transcripts, GRE and TOEFL scores, and three letters of reference by December 31, 2007 to:

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