PhD position: Understanding and predicting effects of toxicants on aquatic communities

The PhD project focuses on ecological effects of agricultural pesticides and other relevant environmental contaminants on freshwater invertebrates and plants. This highly innovative macro-ecological research field assesses interactions of environmental parameters and toxicants. It contributes to a realistic risk assessment and landscape management. You will work as a field ecologist, conducting chemical and biological investigations in streams. The study area will be located in the TERENO UFZ observatory (www.tereno.net), central Germany.
Background: The challenges in detection and evaluation of pesticide effects on aquatic ecosystems – flora and fauna – are two-fold. First, specific exposure patterns hinder chemical monitoring of pesticide concentrations – pesticide pollution is mostly diffuse and transient and often occurs at low concentrations. Second, variability in biological communities – there is a high diversity in communities inhabiting freshwaters, and these communities are affected by numerous factors including natural and anthropogenic stressors that may confound effects of pesticides. To tackle these difficulties, special sampling methods, the pesticide-specific bioindicator system SPEAR, and many other methods have been developed in recent decades. However, reliable quantification of the ecological effects of pesticides and other environmental contaminants on Flora and Fauna still requires extensive research work. Thus, ecological effects of insecticides, herbicides, pharmaceuticals remain to be investigated on different trophic levels and ecosystem goods and services.

Applicants should hold a degree in biology, environmental science, geo-ecology or comparable fields. Deadline for application is 30.03.2010. For further information, please refer to (http://www.higrade.ufz.de/index.php?en=19312) or contact matthias.liess@ufz.de.

The place of work is Leipzig and Freiberg, Germany. Funding is available for three years. The successful candidates will be working in a highly interdisciplinary research environment with excellently equipped facilities and strong national and international links to the most relevant research institutions in this field. The PhD student can benefit as well from the Graduate School HIGRADE.