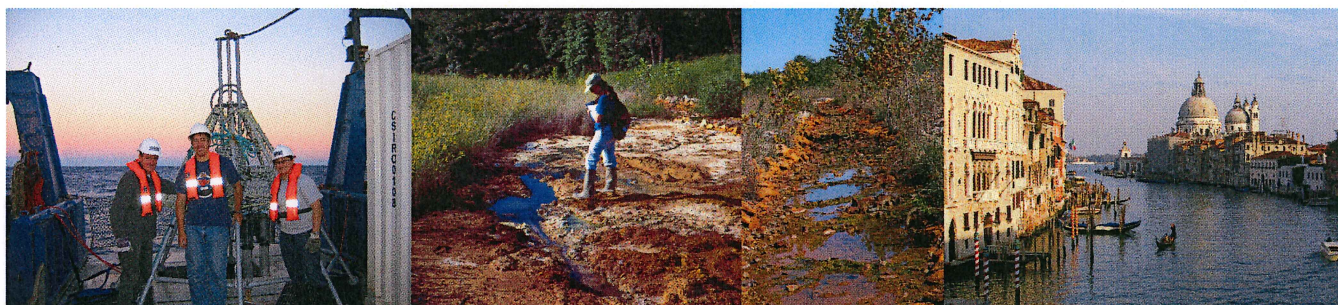


# Department of Earth and Environmental Systems

Indiana State University

More from Day One



## Biogeochemistry

**Sandra Brake** is a geologist with special interest in microbial biofilms in acid mine drainage systems. Her current research focuses on the formation of iron-rich stromatolites by eukaryotic biofilms. She is currently developing simulated AMD solutions to maintain microbial biofilms in a controlled environment. She also has collaborative projects that explore for biomolecular traces indicative of the formation of organosedimentary structures by eukaryotic microorganisms. ([Sandra.Brake@indstate.edu](mailto:Sandra.Brake@indstate.edu))

**Jennifer Latimer** is a low-temperature geochemist interested in studying metal and nutrient cycling in marine and lacustrine sediments as well as urban soils and soils impacted by acid mine drainage. Current research projects include paleoceanographic studies of marine sediments in the Southern Ocean, tropical South Atlantic, and Bering Sea during the late Quaternary through the late Cretaceous, as well as paleolimnologic studies in Okavango Delta in Botswana. Also of interest are heavy metals, particularly lead, in urban soils and their potential impact on human health as well as characterizing the speciation, bioavailability, and mobility of metals associated with abandoned mine lands and acid mine drainage. ([Jen.Latimer@indstate.edu](mailto:Jen.Latimer@indstate.edu)) .

**Anthony Rathburn's** research interests include the biogeochemistry and ecology of foraminifera (single-celled organisms) in marine ecosystems. His current projects focus on the ecology and stable isotope biogeochemistry of seafloor methane seep organisms (off Costa Rica, in Monterey Bay; at Hydrate Ridge off Oregon); trace metal compositions of biogenic carbonate in contaminated environments (Australia and Venice, Italy); the relationship between foraminiferal test (shell) morphology and oxygen availability (off California and elsewhere); the ecology and stable isotope biogeochemistry of deep-sea foraminifera on the Australian margin and from oxygen minimum zones (off Costa Rica and California). His field work often includes the use of Alvin (manned submersible) or Jason (remotely operated vehicle). He actively involves students in all of his research projects. ([trathburn@gmail.com](mailto:trathburn@gmail.com)) [www.indstate.edu/geol\\_anthro/paleontology/paleontology.html](http://www.indstate.edu/geol_anthro/paleontology/paleontology.html)

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