

# GK-12 Graduate Fellows Program

Funded by National Science Foundation under Grant No. 0139171

## Roger Shew-Geologist

### Sedimentology, Petroleum Geology, and Earth/Environmental Science Education



My training as a Geologist is primarily in Sedimentology, which is a broad term for the study of sediments, soils, and sedimentary rocks; and how they were formed and deposited. However, geology is truly an integrative and collaborative field of study. I have studied and utilized various disciplines (stratigraphy, sedimentary petrology, geophysics, paleontology, petroleum engineering, and environmental geology) within geology to work in both industry (petroleum geology) and academia. I worked for 20 years as a Petroleum Geologist, and have been a Geology/Environmental Lecturer at UNC Wilmington for the past 6 years.

I have always loved the “great outdoors”. This is one of the primary reasons I became interested in geology, as well as biology and environmental science. I am especially interested in integrating these sciences to address earth and environmental issues, particularly as they apply to local problems. We have numerous issues in the coastal plain of North Carolina, including: coastal erosion and hurricanes, water quality and availability, air quality, and degradation and/or loss of habitat and resources as population and urbanization increases. I believe that we have an obligation to maintain or even improve our environment and to strive for a sustainable society – one in which we supply the needs of today without jeopardizing the needs of future generations. I try to accomplish this through the classes I teach in geology and environmental science, as well as in volunteer work that utilizes my scientific background. I volunteer for the Nature Conservancy and the North Carolina Coastal Federation. It is important to me to be an active participant, as well as a researcher and educator. I hope to help both people and the environment by using a sound understanding of science and its proper application in addressing difficult issues.



My work in Petroleum Geology involved research and characterization of reservoirs using rock outcrops, seismic data, well logs, and cores. The detective work of geology is fun and applicable to other sciences. For example, knowing rocks and minerals that are deposited in water on Earth can help us to determine if there was water on Mars.

I really enjoy all fields of geology and other sciences. However, my favorite area is science education; especially geoscience and environmental education. Integrating science materials and effectively communicating and teaching science to students, teachers, and the public are among the most important contributions a scientist can accomplish. I conduct teacher workshops, present to school groups, and present to the public on a variety of topics including energy, hurricanes and coastal hazards, natural history, coastal ecosystems, water quality, resources, etc. I never tire of learning and teaching!