



Research Opportunities at an EMSI for Undergraduate Students from Smaller Institutions

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The Center for Environmental Molecular Science (CEMS) is an NSF Environmental Molecular Science Institute (EMSI) located at Stony Brook University, with collaborators at Brookhaven National Laboratory (BNL), Temple University and Penn State University. Education and outreach programs aimed at undergraduate students from smaller institutions, particularly those from groups underrepresented in science, are one of the important broader impacts of the Center's activities. CEMS accepts 8-10 students for a 10 week summer program in which students work closely with faculty and graduate students on research projects related to environmental chemistry and geochemistry.

The focus on students from smaller institutions offers a research experience to students who would not normally have opportunities for laboratory research on current problems having societal relevance. Mentoring directly by faculty provides students with a taste of graduate student life and allows them to gain a better appreciation of the academic research environment. We strive to provide a sense of community among the students. The students meet weekly to present their research results to their peers and CEMS researchers. They are housed together in the same dormitories and participate in a wide range of activities - from camping, canoeing trips to cooking communal meals. Visits to other laboratories at Stony Brook and BNL in our multidisciplinary Center are organized to increase the students' exposure to a wider range of environmental research activities.



CEMS 2004 REU participant Shanna Chambliss, (left) a student from Elizabeth City State University in Virginia, worked with Prof. Fisher in Marine Sciences, on "The Effects of Selenium on Mercury Toxicity and Grazing Copepods."

An emphasis is placed on presentation of results. **Kathryn Cole**, a **CEMS 2003 summer research student** from Fairfield University, CT, was the first author of a paper "²H MAS NMR studies of deuterated goethite (α -FeOOD)", published in an ACS journal. Terry Minjares recently presented her research results at the ACS meeting in San Diego, March 2005. CEMS provides undergraduate students with a unique perspective for problem solving that is not readily obtained in a traditional educational model.



<http://www.ollusa.edu/news/viewarticle.asp?ID=199>



Junior contributes to geoscience research at SBU-Stony Brook

Junior environmental science major **Terry Minjares** had never studied mineralogy, but that didn't stop her from contributing important research to the area of geoscience. Minjares completed an internship with the **Center for Environmental Molecular Science** at the Stony Brook University at Stony Brook, where she assisted in research to test the effects of pyrite (commonly called fools' gold) in breaking down organic pollutants.

"I was intimidated at first," she said. "But I read some books on my own... , and I quickly became confident in my ability to do the research project".

Minjares worked with Martin Schoonen, Professor of Geochemistry at Stony Brook University-Stony Brook, and two Stony Brook graduate students. Minjares conducted experiments where she replaced the iron in the pyrite by nickel, and then tested the effects the new compound had on decomposing ribonucleic acid (RNA).

"Her work was first-rate in a subject that is not simple," said Schoonen. "The research is of such quality... [we] have every intention to write this up as a publication."

Maria Teresa Minjares from OLLU, San Antonio, TX, was one of our summer research students from Summer 2004

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