



Research Opportunities at an EMSI for Undergraduate Students from Smaller Institutions

Center for Environmental Molecular Science

Stony Brook University, Stony Brook, NY 11794

<http://www.cems.stonybrook.edu>



The Center for Environmental Molecular Science (CEMS) is an NSF Environmental Molecular Science Institute (EMSI) located at the State University of New York, Stony Brook, with collaborators at Brookhaven National Laboratory, 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. 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 published in an ACS journal, "²H MAS NMR studies of deuterated goethite (α -FeOOD)".



The structure provided by our multidisciplinary Center allows students to gain a better understanding of the relationships among different disciplines and how communication between them often leads to new insight. CEMS provides undergraduate students with a unique perspective for problem solving that is not readily obtained in a traditional educational model.

Maria Teresa Minjares ("Terry"-shown above) from Our Lady of the Lake University, San Antonio, TX, is one of our summer research students from Summer 2004. Her mentor, Professor Martin Schoonen, has encouraged Terry to present her research results on the mechanisms of organic pollutant degradation in the presence of pyrite at the ACS meeting in San Diego next year.

Read highlights from Terry's September 2004 interview by Our Lady of the Lake University web page upon returning to complete her junior year.

Environmental Molecular Science Institute CHE- 0221934

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



Junior contributes to geoscience research at SUNY-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 State University of New York (SUNY) at Stony Brook this summer, 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 SUNY-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."