Department of Biomedical, Chemical and Environmental Engineering
COLLEGE OF ENGINEERING AND APPLIED SCIENCE

SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: March 1, 2014

The Department of Biomedical, Chemical and Environmental Engineering and the Polymer Research Centre (PRC) are pleased to offer the following research project for the summer of 2014. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and, if possible, develop a timetable for the twelve-week research period.

SILICON AS AN ESSENTIAL MICRONUTRIENT

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Project Description

Silicon (Si) and oxygen (O) in various combinations make up approximately 74% of the Earths crust. Silicon is also an essential micronutrient for many lifeforms (including humans). The role of silicon in-vivo is a long way from being understood. One hypothesis for silicon biochemistry in humans is that "silicon" is able to block various aspect of the biochemistry of toxic aluminium compounds. In this research project, our WISE team will review the current literature on "SILICON AS AN ESSENTIAL MICRONUTRIENT" and we will then perform some laboratory investigations on silicon metabolizing organisms in order to explore aspects of "silicon" uptake, storage, utilization and discharge in model systems (including diatoms). As a final "deliverable" of this WISE research project, we will submit a manuscript for publication that describes our key findings.