The Department of Biological Sciences is pleased to offer the following research project for the summer of 2016. 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.

PROJECT TITLE: Molecular Biology of Thermoacidophiles

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Project Description

Only a few prokaryotic micro-organisms (primarily archaea) thrive in the extreme environments of acidic hot springs. The Grogan lab (Dept of Biological Sciences) uses microbiological and molecular-genetic techniques to investigate how these simple but unusual cells function. A 2016 WISE participant would be encouraged to choose from among several research topics that relate to the survival of *Sulfolobus* cells in geothermal environments and the accurate replication of their genomes. The experimental approaches for the projects include molecular cloning, DNA sequence analysis, testing the consequences of DNA damage, or measuring rates of cellular growth or survival. Although the potential topics vary, all investigate the possibility that *Sulfolobus* species and other thermoacidophilic archaea employ novel molecular mechanisms to carry out basic cellular processes under extreme environmental conditions.