

SURE AWARDS MADE FOR SUMMER '01

Seventeen Stonehill College students will work with nine faculty members on a variety of research projects over the coming summer of 2001. The scholars and their faculty mentors are the sixth group to work under the Stonehill Undergraduate Research Experience (SURE) program, whose purpose is to provide students with an opportunity to perform significant, publishable research under the guidance of an experienced faculty researcher. The research experience will help to provide students with a competitive advantage in graduate and professional school applications and in post-college employment opportunities, as well as to provide assistance to faculty in research activities.

Matthew Feeley '02 and **Jennifer Klicker '03** will work with **Craig A. Almeida**, Assistant Professor of Biology, on "Characterization of Transposon-based Gene Replacement." Feeley, a Biology major, and Klicker, an undeclared science major, will perform specific research activities as part of Professor Almeida's ongoing project to develop a gene replacement technique in the microscopic soil nematode *Caenorhabditis elegans*. The technique ultimately can be used as a major tool by other *C. elegans* researchers in their efforts to elucidate gene function, with the goal of understanding the molecular basis of genetically inherited diseases and the potential development of treatment strategies.

Kathryn M. Stolz '03 will work with **Marilena F. Hall**, Assistant Professor of Chemistry, on "Investigation of the Catalytic Triad in Zinc Metalloenzymes by Small Molecule Modeling of the Active Site of Carboxypeptidase A." Stolz, a Chemistry major, will be exploring the significance of the element of zinc and the amino acids that surround it in the active site of certain enzymes. This study is important to the field of protein engineering and the necessity to understand the effect of the metal ion coordination in proteins on their structure/function. Stolz will first synthesize a small molecule model of the active site of the enzyme carboxypeptidase A. Once the pure compound has been obtained, Stolz will characterize it and carry out experiments to test its reactivity.

Elizabeth Kubetin '02, **Adriana Miele '02**, **Claudia Petit '02** and **Adam Silver '02** will work with **Roger M. Denome**, Associate Professor of Biology, on two projects exploring population genetics. Kubetin and Silver, both Biology majors, will focus on the "Genetic Identification of Cape Cod Coyotes." In collaboration with scientists from Boston College, this project will develop techniques for identification of individual coyotes to "track" family groups and determine coyote population structure on Cape Cod. These techniques are significant as they allow for population biology without capturing the animals being studied, thus having implications for endangered, dangerous or cryptic species. Miele and Petit, also Biology majors, will explore "The Genetics and Origins of Thompson Island Skunks." This on-going project will determine the genetic differences between striped skunks from Thompson Island, in Boston harbor, and those from the mainland population of striped skunks from the Boston area. The results of this project are of interest to wildlife managers, primarily because skunks are a major reservoir for rabies.

Emily Dearstyne '02 will work with **Ronald Leone**, Assistant Professor of Communications and Theatre Arts, on "Corporate Self-Promotion through Television Network Ownership." Dearstyne, a Communications major, will assist in this study which will focus on the relationship between the amount of media holdings a media company has and the amount of self-promotion in which the company engages on the network it owns. A systemic content analysis will be conducted for this research project, using a sample of one week's work of prime time network programming on NBC and ABC during the May 2001 sweeps period. Dearstyne will be responsible for the preliminary review of the literature; for generating a list of the two companies' current media holdings, information that will be used to identify the appearance of promotional materials during sweeps week; and will assist in collecting, coding, and analyzing data.

Andrae Vandross '02 will work with **Louis J. Liotta**, Associate Professor of Chemistry, on "Synthesis of Polyhydroxylated Pyrrolidines: The Conversion of D-Glucose to D-Altrose and L-Mannose to L-Allose," Professor Liotta's long-term research funded by the Petroleum Research Fund of the American Chemical Society. Vandross, a

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Biology major, will build on work done in previous summers by earlier SURE scholars and will be responsible for developing and carrying out a particular set of reactions which will convert commonly available sugars into sugars which are naturally much rarer. These sugars will then be used to synthesize polyhydroxylated pyrrolidines which are of high interest medicinally, agriculturally, and chemically. Once compounds are synthesized, Vandross will be responsible for their purification and characterization.

Matthew Souza '02 will work with **John Morse**, Assistant Professor of Philosophy, on "'Ownership' of the Self and Moral Responsibility." This project which draws from the fields of psychology and philosophy, will address the tension between an approach to moral responsibility that relies on the notion of an individual's ownership of his "self" and the role of the community on an individual's value formation. Souza, a Psychology and Philosophy double major, will compile the necessary primary source documents, critique these sources, and be involved with the preparation of a conference paper.

Amy Bergeron '02 and **Vanessa Rodriquez '03**, will work with **Rose Perkins**, Associate Professor of Psychology on an investigation into the relationships women experience within the family environment. Together, Bergeron and Rodriquez, both Psychology majors, with Professor Perkins will analyze data gathered during a four-year pilot study in which women responded to questionnaires and personality instruments designed to measure family transactions.

Erica M. Fillion '02, Jason Howe, '03, Joseph Primo '03, and Erin Temmen '03 will work with **Erika Schluntz**, Assistant Professor of Religious Studies, on the "*Dailey Homestead Excavations*." This project, whose goal is to expand the Stonehill community's knowledge and appreciation of our campus's social history, focuses on the historical research and archaeological excavation of an eighteenth century farmhouse located on the campus. This summer the work will continue and build upon that work begun during the summer of 1999 with earlier SURE Scholars. Fillion, a History and Religious Studies double-major; Howe, a Religious Studies major; Primo, a Religious Studies major; and Temmen, a double major in Political Science and Religious Studies, will research the history of the site, and learn and apply the processes of archaeological excavation.

Patrick R. Furcolo '03 will work with **Cheryl S. Schnitzer**, Assistant Professor of Chemistry, on "*Determination of Heavy Metal Surface Activities with a Bubble Column*." Heavy metal contamination in drinking water is a common environmental concern for inner-city residents. One way to facilitate the removal of heavy metals from water is to aerate the sample, causing the metal to collect at the surface. Furcolo, a Chemistry major, will determine the surface activity of the heavy metals to improve wastewater remediation efficiency, providing valuable applications to wastewater treatment.

SURE Scholars will begin the program on May 29 for an eight or ten week period. They will engage in weekly meetings to discuss the progress of their projects and other topics of general interest, and will be paid a stipend for their full-time service. All SURE Scholars will present summaries of their summer's work at an all-campus poster session in the early fall. The SURE program is partially funded by a grant from the Arthur Vining Davis Foundations.

Students and faculty members who wish to pursue a SURE research project for the summer of 2002 may contact the Office of Academic Development, Duffy 199-A, ext. 1069, for further information. The deadline for applications for the summer of 2002 is December 14, 2001.