

## SURE AWARDS MADE FOR SUMMER '03

Eighteen Stonehill College students will work with ten faculty members on a variety of research projects over the coming summer of 2003. The scholars and their faculty mentors are the eighth 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.

**Christopher Covello '04** will work with **Craig A. Almeida**, Assistant Professor of Biology and Director of the Biochemistry Program, on the development of an innovative course supplement entitled *An Illustrated Tour of the Cell*. Covello, a Biology major, will assist in the production of this text's material which will be comprised of illustrations generated by hand and with the aid of computer software. The finished product will consist of high-quality illustrations to help students visualize complex cellular and molecular processes.

**Meghan Ferreira '05** and **Jennifer Pirri '05** will work with **Craig A. Almeida**, Assistant Professor of Biology and Director of the Biochemistry Program, on the development of an inquiry-based Cell Biology Laboratory, which will be taken concurrently with the Cell Biology lecture. Ferreira and Pirri, both Biology majors, will assist Prof. Almeida in establishing lab exercises that concentrate on the theory and application of basic techniques in cell biology. Ferreira and Pirri will be working to develop, test, modify, and retest each formal lab exercise as well as open-ended investigations while writing a thorough introduction and protocol for each exercise, which will be compiled into a lab manual.

**Danielle Parsons '05** will work with **Craig A. Almeida**, Assistant Professor of Biology and Director of the Biochemistry Program, on The Effect of the *mut-2* gene on recombination frequencies in *Caenorhabditis elegans*. The free-living soil nematode *C. elegans* is a favorite model organism for molecular genetic analysis of a wide range of problems in biology. Parsons, a Biology major, will assist in further elucidating the as yet unknown function of the *mut-2* gene.

**Erin Demerjian '04** will work with **Carole Calo**, Associate Professor of Fine Arts, on *Contemporary Sculptors: Private/Public*. Demerjian, a Fine Arts major, will assist Prof. Calo in research exploring artworks by ten contemporary American artists and producing a finished book consisting of an introduction, an individual chapter on each artist, and a conclusion. The relationship between each sculptor's gallery or studio sculpture and work commissioned for public sites will be the focus of the project.

**Jennifer Karp '05** will work with **Robert Carver**, Professor of Business Administration, on *Ancillary Materials for Doing Data Analysis with Minitab 14*. Prof. Carver is revising his book *Doing Data Analysis with Minitab 12*, a manuscript that grew out of a SURE project in the summer of 1996. Karp, a Business/Accounting major, will test computer exercises for technical accuracy and clarity, create a solutions manual, and develop PowerPoint presentations which will be available on a text web site supporting adopters of the book.

**Beth Gagnon '04** and **Brittany Bates '04** will work with **Roger M. Denome**, Associate Professor of Biology, on *Molecular Population Genetics of Pink Lady Slipper Orchids*. Gagnon and Bates, both Biology majors, will conduct a literature survey of the taxonomic, phylogenetic and biological status of the genus *Cypripedium*. Pink lady slipper orchids (*Cypripedium acaule*) have very specific requirements for growth and reproduction and thus are constantly at risk due to habitat destruction and modification. This study will develop the techniques needed to assay genetic variation in this population and determine the levels of variation at a number of loci.

**Andrew Wood '04** will work with **Mohammed el-Nawawy**, Assistant Professor of Communication, on *Between the Public and the Media: A Critical Analysis of Political Mobilization*. Wood, a Political Science major, will assist in the examination and analysis of the relationship between mass media coverage of political issues and political mobilization on the public's part to see if it is a cause and effect relationship. Wood will critically analyze existing theory and research done by political scientists and scholars of journalism and mass communication. Expected outcomes include an article co-authored by Wood and Prof. el-Nawawy, an annotated bibliography, and possibly a book to be authored by Prof. el-Nawawy.

**Mark Tuden '04** and **Kristin Felice '04** will work with **Marilena F. Hall**, Assistant Professor of Chemistry, on the *Modeling Zn<sup>2+</sup> Coordination Site of Zinc Metalloenzymes Using Peptide Phage Display*. Tuden and Felice, both Biochemistry majors, will explore Zn<sup>2+</sup> coordination in enzyme active sites through the use of short peptide models. The goal of this project is to gain insight into the action of zinc metalloenzymes. Understanding the action of enzyme catalysis is crucial to protein engineering, a field in which the rational design of proteins can serve to develop reagents with practical uses.

**Rebecca Adams '05** will work with **Hossein Kazemi**, Associate Professor of Economics, on *Money, Monetary Policy, and Financial Markets*. Adams, a marketing major, will gather, compile and analyze primary and secondary sources for use in writing sections of this book. This work will bridge the gap between the existing literature in money and financial markets by giving comprehensive coverage of the fundamentals in money and monetary policy while delving more into fundamental issues (i.e. national changes and day to day interactions in the financial markets). The outcome will be a publication that has a realistic applicability to the teaching of money and monetary policy.

**Lauren Sardi '04** will work with **Patricia Leavy**, Assistant Professor of Sociology/Criminology, on the *Auto Ethnography and Content Analysis in a Qualitative Research Primer*. Sardi, a Sociology and Psychology double major, will assist in social scientific research for preparation of two chapters of a comprehensive qualitative research primer of which Prof. Leavy is a co-author. Sardi will be involved in gathering and synthesizing data found within literature reviews and analyzing data from e-mail interviews with prominent scholars while gaining knowledge of qualitative research, particularly, oral history and content analysis.

**Renato Bauer '05**, **Andrew S. Campbell '05**, **Megan Fitzgerald '05**, and **Ellen Sletten '06** will work with **Louis J. Liotta**, Associate Professor of Chemistry, on the synthesis of novel molecules that hold great potential both medicinally and agriculturally. The synthesis of these molecules must be done in such a way as to carefully control their exact three-dimensional shapes. Bauer and Fitzgerald, both Biochemistry majors, and Campbell and Sletten, both Chemistry majors, will work to continue a project Prof. Liotta began with previous SURE scholars. A means of efficiently converting commercially available sugars into hydroxylated

pyrrolidines has been developed in Prof. Liotta's laboratory. The students will be responsible for optimizing and carrying out a particular set of reactions. Once these compounds are synthesized, the students will be responsible for their purification and characterization.

**Shaina Byrne '04** will work with **Leon J. Tilley**, Associate Professor of Chemistry, on the *Synthesis and Solvolysis of alpha-Trifluoromethyl gamma-Silyl Substituted Tertiary Systems*. Knowledge of the mechanisms of these processes can provide chemists with ability to control reaction outcomes so as to achieve a desired product that may have commercial or medicinal value. Byrne, a Biochemistry major, will work to continue and complete a project Prof. Tilley began with previous SURE scholars and will be responsible for the synthesis and study of these systems, destabilizing the tertiary carbocation with an electronegative trifluoromethyl group in hopes of increasing percaudal participation.

SURE Scholars will begin the program on May 27, 2003 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.

Students and faculty members who wish to pursue a SURE research project for the summer of 2004 may contact the Office of Academic Development, Duffy 119, ext. 1069, for further information. The deadline for applications for the summer of 2004 is December 12, 2003.