

**MCMICKEN COLLEGE OF ARTS AND SCIENCES
Department of Chemistry**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 1, 2006

The Department of Chemistry is pleased to offer the following research project for the summer of 2006. 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.

PROTEMIC STUDIES OF PROTEIN: NUCLEIC ACID COMPLEXES

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The goal of this research is to understand the biomolecular interactions within protein:nucleic acid complexes. These complexes are essential to many significant biological events within the cell. Recent advances in biotechnology now permit global investigations of these complexes, yielding information on the protein participants, the stoichiometric ratios of proteins to nucleic acids, and the structural details relevant to the function of these complexes. A student working on this project will help to isolate specific protein:nucleic acid complexes, identify the participating proteins, and characterize the structural relationship between the proteins and nucleic acids. She will learn various biochemical, molecular biology and analytical methods that are useful in chemistry, biology and genetics, including ultracentrifugation, chromatography, electrophoresis, recombinant DNA technologies, and mass spectrometry. The project goals are broad enough that a student may pursue a specific area of research, depending on her interests and background. No prior research experience is required.