

Virginia Commonwealth University

"Practices and Perspectives"

A research experience for undergraduates in chemistry

The Department of Chemistry at Virginia Commonwealth University invites applications for participation in the Research Experience for Undergraduates for the summer of 2006. This program is partially funded by the National Science Foundation. The "Practices and Perspectives" program is designed to provide an experience that combines practical training in specific research techniques (practices) with activities designed to put the research into the context of larger goals of modern science and technology (perspectives). The program will also provide career planning and management components. The research projects offered involve experience in some combination of synthesis, analysis and computer modeling. Available research projects are summarized below.

<i>Project Title</i>	<i>Skills</i>	<i>Area</i>
DNA Hybridization Detection By Streaming Potentials	A	bioanalytical, materials
Atomic Force Microscopy Studies of Semiconductor Films	A	chemical physics, materials
Atomic Engineering of Nanoparticles	S, A	inorganic, materials
Platinum-DNA Interactions	S, A, M	bioinorganic
Preparation and Characterization of Sol-Gel Derived Materials	S, A	analytical, materials
Designing Oral Heparins	A	medicinal chemistry
Synthesis of Nanoparticles by Laser Vaporization-Controlled Condensation Technique	A, M	physical, chemical engineering, materials
Molecular Clusters, Gas Phase and Cluster Polymerization	S, A	physical, chemical engineering, materials
Development of Chemometric Methods for Screening for Drugs of Abuse	A	analytical, bioanalytical
Investigations of the Pharmacological Actions and Mechanisms of Action of Drugs of Abuse	S, A, M	medicinal chemistry
An Artificial Photosynthetic Membrane	A	biophysical, materials
Optical Characterization Studies of Semiconductor Materials and Devices	A	chemical physics, materials
Development of New Synthetic Strategies for the Immobilization of Antibodies	S, A	organic, bioanalytical
Nanoscale Reactors Based on Self-Recognizing Liposomes	S, A	organic, biophysical
Novel Polymer Surface Science	S, A	organic, chemical engineering
Nucleoside Modification by Terpene Quinone Methides	S, A	organic, bioorganic

key: S = synthesis, M = modeling, A = analysis

This program is ten and a half weeks long and will run from May 31 until August 11, 2006. During this time, participants will receive a stipend of \$3500. In addition, the program will pay dormitory fees, health service fee and limited travel assistance will be available.

Students who apply to the program must have completed one year of general chemistry and one year of organic chemistry, for applicants in chemistry. Chemical engineering and chemical physics applicants must have completed one year of general chemistry. To be eligible, students must be US citizens or permanent residents, and not have graduated prior to June 2006. Completed applications, including transcripts, two letters of recommendation and one page narrative statement are due no later than March 15, 2006. Application materials may be obtained online at <http://www.has.vcu.edu/che/research/nsf.html>, or by contacting the REU program coordinator at the location below.

Send to: Practices and Perspectives REU Program

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