

"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 2010. The "Practices and Perspectives" program, funded by the National Science Foundation, 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. Available research projects are summarized below.

<i>Project Title</i>	<i>Area</i>
Design, fabrication and characterization of electrochemical biosensors built in plastic microfluidic platforms	Analytical, materials, bioanalytical
Development of chiral nanostructured materials for heterogeneous catalysis	Analytical, materials, bioanalytical
Fabrication and characterization of microporous and mesoporous materials prepared via the sol-gel process	Analytical, materials
Characterization of chromatographic stationary phases	Analytical
Development of statistical and mathematical approaches using computers for the analysis of spectral data	Analytical
Pt complexes as novel anticancer agents and their mechanism of action	Bioinorganic
Gas-phase reaction mechanisms	Physical organic
Protein post-translational modifications	Bioorganic
Drug discovery	Organic, bioorganic
In vitro selections with unnatural cyclic peptide libraries	Organic, bioorganic
Active delivery of substrates by ditopic ligands	Organic, bioorganic
Synthesis and application of nanoparticles	Inorganic, nanoscience, materials
Design of low density and highly porous organic and inorganic polymers for use in storage, catalysis and sensing applications	Inorganic, materials
Nucleation phenomena, photo-induced nucleation, molecular clusters, ion equilibria, energetics and solvation in the gas phase, and electronic properties of molecules and clusters	Physical, nanoscience
Microwave and microreactor technology to improve chemical process efficiencies	Organic, chemical engineering
Development of organic process methodologies that can be applied in commercial pharmaceutical applications	Organic, chemical engineering

This program is 10-and-one-half weeks and will run from June 1 to Aug. 13, 2010. During this time, participants will receive a stipend of \$4,000 plus a \$500 food allowance. In addition, the program will pay dormitory fees and a health service fee. Limited travel assistance also will be available.

Students who apply to the program must have completed one year of general chemistry and one year of organic chemistry. To be eligible, students must be U.S. citizens or permanent residents, and not have graduated prior to June 2010. Completed applications, including transcripts, two letters of recommendation and one-page narrative statement, are due no later than March 1, 2010. Application materials may be obtained online at 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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1001 West Main Street**

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