

**2008 Summer REU Research Projects at Iowa State University
Departments of Chemistry, Chemical Engineering, Mathematics, and Physics**

Please rank the following projects from 1-5 (where 1 is the highest preference) according to your interests. *

SUMMARY OF RESEARCH PROGRAMS

____ **JAMES EVANS:** Modeling and simulation of far-from-equilibrium processes at surfaces, with special emphasis on catalytic surface reactions and thin film growth.

____ **MARK GORDON:** Applications of quantum chemistry to mechanisms of chemical reactions, with particular emphasis on the role of solvents and on heterogeneous catalysis.

____ **BRUCE HARMON:** Prediction and understanding of the properties of magnetic materials, for example, the study of molecular magnets, a new class of materials based on large organic molecules.

____ **KAI-MING HO:** Molecular dynamics simulations of clusters and surfaces, with emphasis on surface reconstructions, surface morphology and diffusion processes on surfaces. Also, protein structure prediction.

____ **WILLIAM JENKS:** Using computational chemistry to understand mechanisms and structures involved in photochemical processes, with emphasis on sulfur chemistry and on the photocatalytic degradation of organic compounds.

____ **MONICA LAMM:** Applications of Monte Carlo and molecular dynamics simulations to study the connection between molecular structure, and the thermodynamic and transport properties of advanced materials, such as membranes, sensors, and pharmaceuticals.

____ **GORDON MILLER:** Combined theory/experiment approaches to the study of structure-property relations in inorganic solids. The primary emphasis is on the analysis of phase transitions and disorder.

____ **XUEYU SONG:** Application of computational methods to the study of chemical reactions in chemical and biochemical systems, with primary focus on energy transfer and electron transfer, as well as the theory or protein crystallization.

____ No project preference.

* Your rankings will in no way commit you to a particular professor or project.

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