NSF Award in Mathematical and Physical Sciences

Principal investigator: Regan Thomson, chemistry
Weinberg College of Arts and Sciences

- **Project:** CAREER: Unlocking the Synthetic Potential of N-Allylhydrazones
- **Start Date:** September 1, 2009
- **Total Award Amount:** $550,000

**How the results of this project will benefit society:**
Professor Regan Thomson’s research efforts revolve around the development of powerful synthetic transformations, in particular those of N-allylhydrazones, which are complex, biologically active molecules. Such chemistry will contribute to our fundamental ability to construct complicated molecular structures from simple building blocks. Successful development of the methodology will have an impact on synthesis in the pharmaceutical industry.

**The problem the project is trying to solve:**
This project will continue work on developing powerful new reactions and strategies for chemical synthesis. The proposed research aims to develop highly useful synthetic methods centered on the use of N-allylhydrazones as readily prepared compounds that can undergo a diverse array of powerful reactions.

**How this project will work:**
Specifically, the research will provide inventive reactions and strategies for preparing complex molecules from simple precursors. Hypothesis driven studies to elucidate the mechanism of these new transformations will provide insight into the underlying molecular processes and inform future reaction development. Application of the reactions in the context of target-directed synthesis of bioactive molecules will demonstrate the methods’ usefulness and broader impacts.

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