

## **Student Laboratory Experiences: Descriptive Chemistry and Computing**

Anna R. Bergstrom and J. J. Lagowski  
The University of Texas at Austin  
Department of chemistry and Biochemistry  
Austin, TX 78712

### **Abstract**

Laboratory instruction in Chemistry is intended to help the student acquire the art of translating observation and thought into action. The development of these skills requires that a student be able to see repeatedly phenomena such as chemical reactions. For many years instructors have relied on ineffective classroom demonstrations or time-consuming laboratory exercises to teach descriptive chemistry. CHEMLAB: REACTIONS, an IBM platform computer program, utilizes advanced in hardware and software to create an effective simulation of the classic N-solution experiment. As they would in the wet laboratory setting, students are required to make decisions and record the results of their decisions. The results of the chemical reactions are displayed on the computer screen as either animated graphics or as digitized video images. Theoretically any scheme of qualitative analysis can utilize the program, provided with the corresponding video or graphic images. CHEMLAB: REACTIONS, in effect compresses laboratory time for students, permits the study of "dangerous reactions" or reactions involving expensive chemicals, while the student acquires observation and translation skills.