LA SiGMA REU Experience 2014

Josef Baylis

Meet Josef

- Grew up in Sacramento, California
- Science nerd since forever
- Cute ➔

Who am I?

- Moved to Marin County
- Go to school at Dominican University
- Study Chemistry

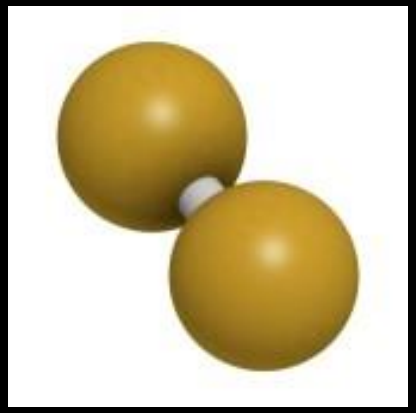
Why REU?

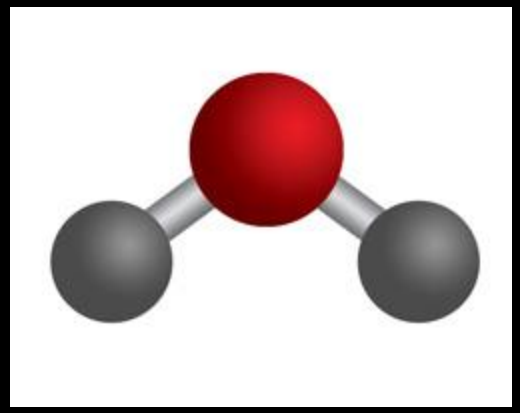
- Previous research experience
- Unsure about Med school vs Grad school
- Worked with Prof. Hall previously

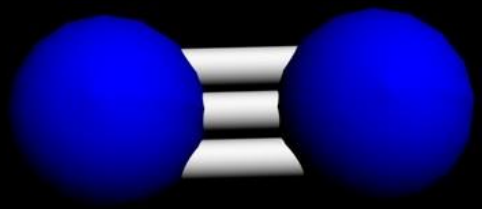
The Research

- Molecular simulations
- SiLK Algorithm formulation

SiLK= Sign Learning Kink Algorithm

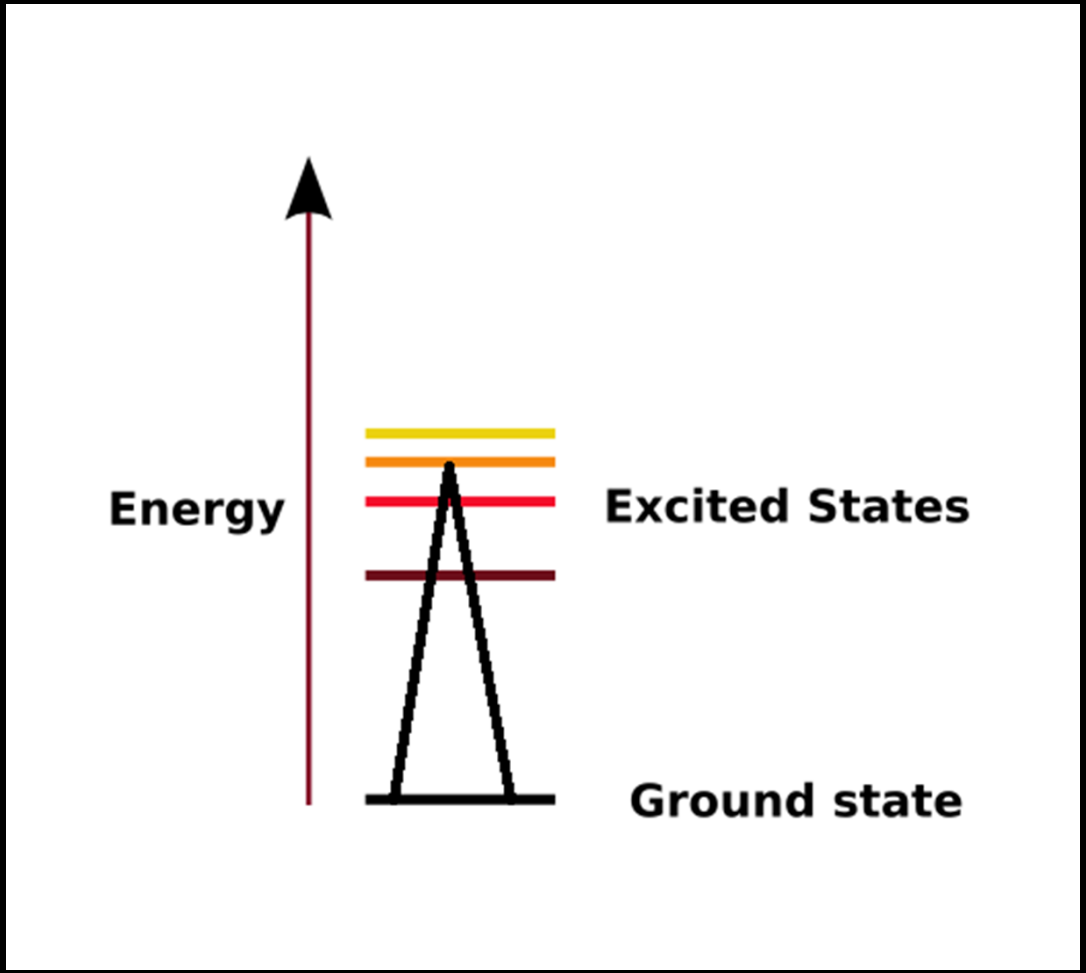






Kinks

- Errors formed in transitions of states in molecular simulations



Why is this significant?

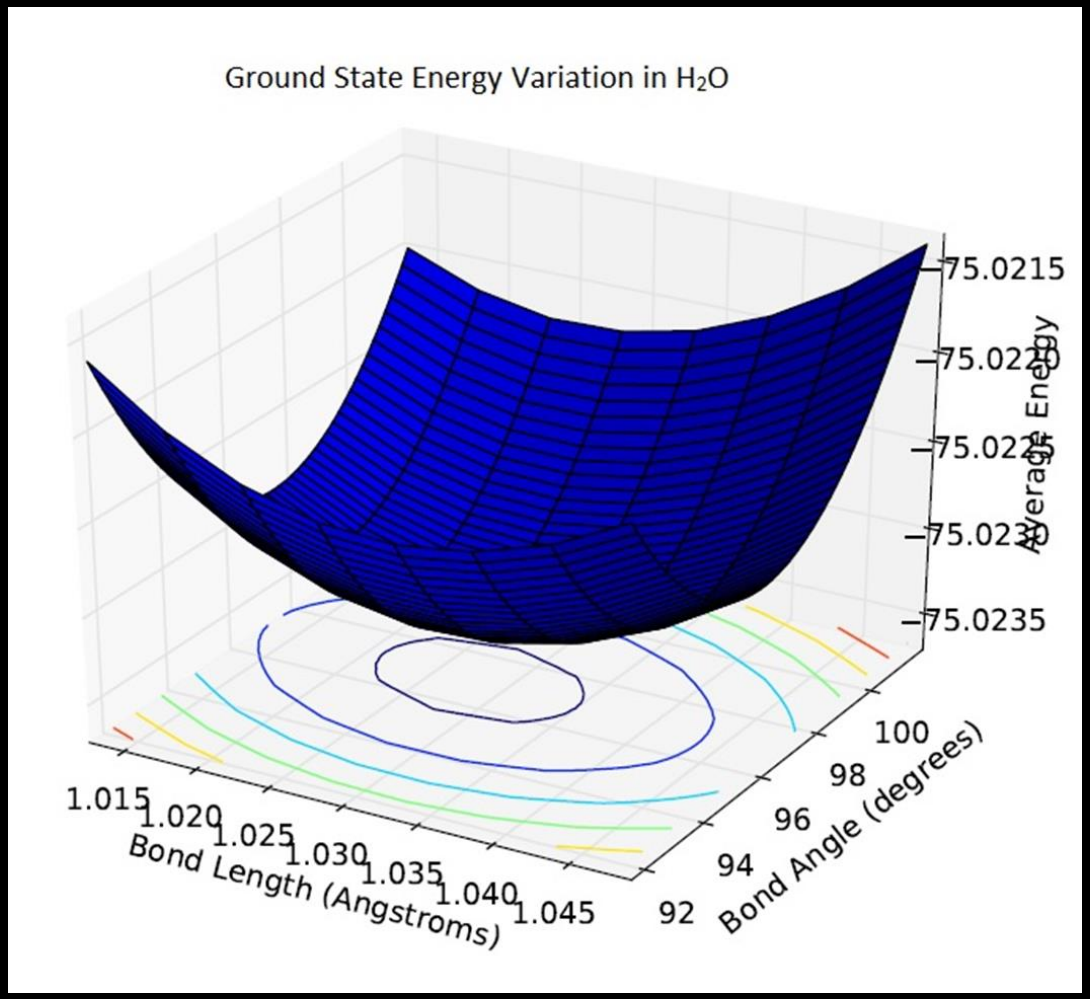
- Transition of states only makes up a small source of error

Summation of all the states

- Adds up to become a bigger problem over time

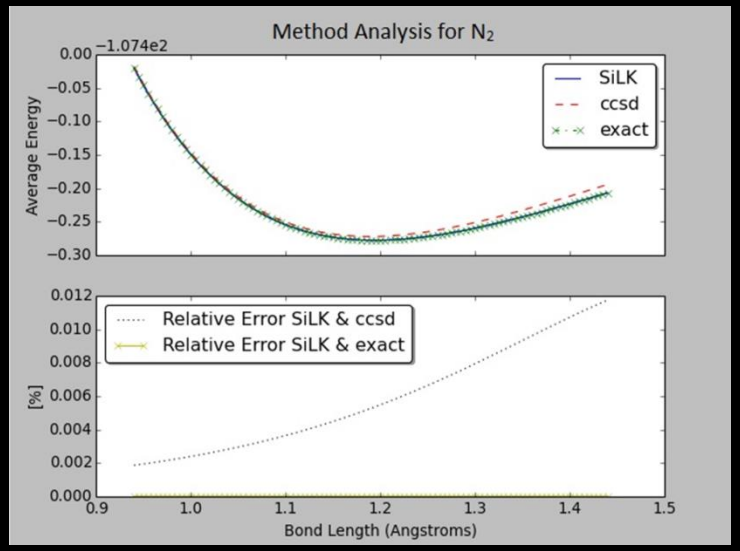
Did it Work?

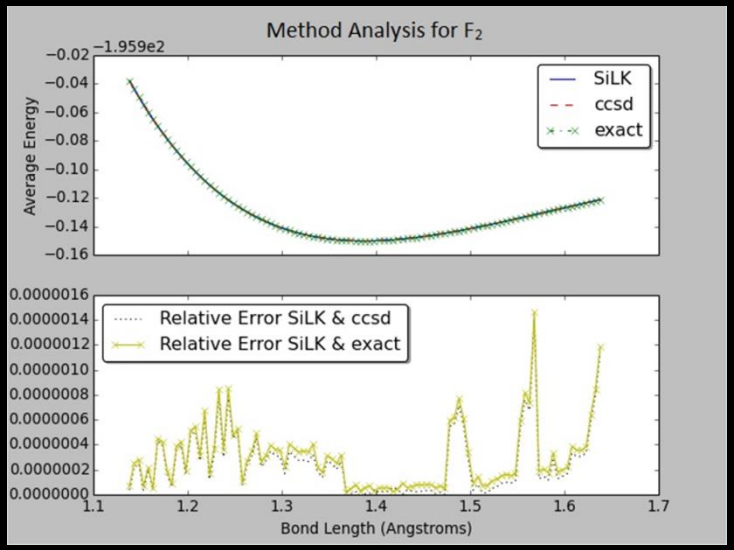
- Ran and recorded data properly
- Could handle stresses on the system



Is it Consistent?

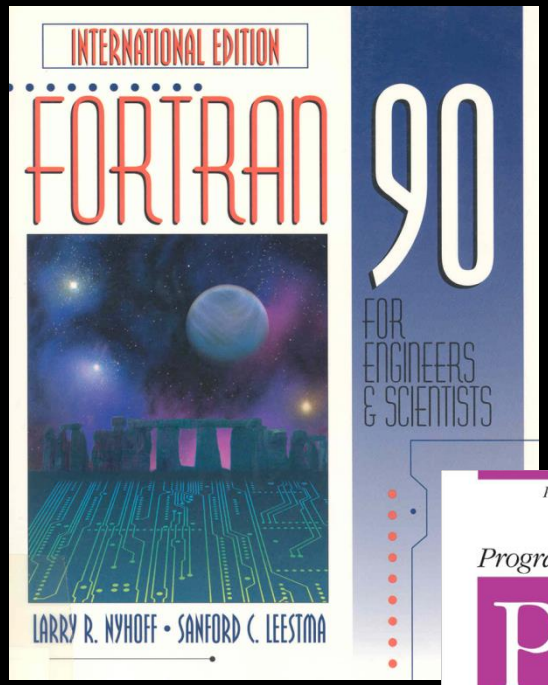
- Produced data similar to existing methods
- Error (discrepancies) between methods was minimal

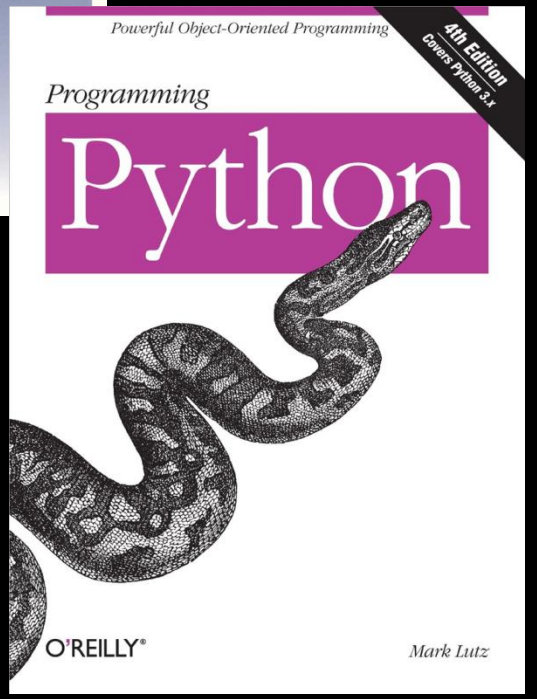




Obstacles

- Learning coding as a Chemistry major
- Actually coding





Struggles

- Running Linux on a Windows machine
- Malware

Continuation

- Stay on with the SiLK team to evaluate more complex electron systems

Student Schedule

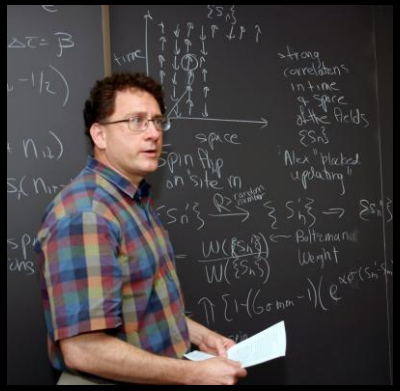
2014 Fall A
CHEM 4993/Lab/2 - Chem Research Methodology IV | Credits 2.00
This is a research based writing laboratory course designed to introduce students to the methods of presentations and writing of scientific topics, audience analysis and adaptation, techniques of support and visualization, organization for clarity and accuracy, and techniques of interpreting and answering questions. Students make and evaluate technical and scientific presentations with an emphasis on seminar reports and professional conference papers - 3-6 lab hours. Prerequisite: CHEM 4991.

Acknowledgements

Frank Löffler

Xiaoyao Ma

Randall Hall



Mark Jarrell

Juana Moreno

Special Thanks to…

QUESTIONS?