

# Ethan W. Emerson

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## RESEARCH INTERESTS

My current research is to examine primary and secondary aerosols using total scattering experiments to understand the phase state of these aerosols. I am focused on applying material characterization techniques to outstanding questions in atmospheric science.

## EDUCATION

2015 – Present **Colorado State University**, Fort Collins, CO  
Ph.D., Chemistry; Advisors: Professor Delphine Farmer and Professor James Neilson

2010 **Dartmouth College**, Hanover, NH  
Research Experience Undergraduate Fellowship, Summer 2010: Research: *Synthesis of luminescent copper(I) complexes*. Advisor: Professor David Glueck

2008 – 2012 **Bates College**, Lewiston, ME  
B.S., Chemistry and Physics, Minor in Mathematics, GPA: 3.71/4.00, May 2012. Chemistry Thesis: *Cinchonadine Derivatives as Chiral Solvating Agents for NMR*. Physics Thesis: *Numerical Simulation of Evaporative Cooling of <sup>87</sup>Rb Atoms*. Advisors: Professor Thomas Wenzel and Professor Nathan Lundblad.

Lab Skills: NMR, GC-FID, GC-MS, HPLC, FT-IR, TLC, UV-Vis, pH meters, organic synthesis procedures and air-free techniques, high-throughput instrumentation and automation.

## PUBLICATIONS

- (1) Emerson, E. W.; Cain, M. F.; Sanderson, M. D.; Knarr, C. B.; Glueck, D. S.; Ahern, J. C.; Patterson, H. E.; Rheingold, A. L. Synthesis, structure, and luminescence of the 'octahedral' cluster  $\text{Cu}_4\text{I}_4(\text{rac-IsMePCH}_2\text{PMeIs})_2$  (Is=2,4,6-(*i*-Pr)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>). *Inorganica Chim. Acta* **427**, 168–172 (2015).

## AWARDS

American Chemical Society Excellence in Student Achievement – 2012  
Undergraduate Award in Analytical Chemistry, American Chemical Society – 2010

## ACADEMIC EXPERIENCE

2015 – Present **Graduate Teaching Assistant**, Colorado State University, Fort Collins, CO  
Currently teaching General Chemistry Lab courses covering thermodynamics, kinetics, qualitative and quantitative analysis, equilibrium, and acid-base chemistry.

2010 – 2012 **Nuclear Magnetic Resonance Assistant**, Bates College, Lewiston, ME  
Ran all Nuclear Magnetic Resonance samples for organic chemistry lab sections.

## Ethan W. Emerson

August 2011 – May 2012 **Help Desk Team Leader**, Bates College, Lewiston, ME  
Managed Help Desk Assistants' schedules and tracked network issues.

August 2012 – August 2011 **Help Desk Assistant**, Bates College, Lewiston, ME  
Assessed, solved and managed hardware and software-related computer issues

August 2009 – April 2012 **Tutor**, Dean of Students Office, Bates College, Lewiston, ME  
Chemistry, physics and math tutor

### PROFESSIONAL EXPERIENCE

December 2014 – July 2015 **Research Associate II, REG Inc.**, South San Francisco, CA  
Designed and implemented high-throughput screening protocols for bacterial fermentation.  
Developed software for high-throughput data analysis.

January 2014 – December 2014 **Research Associate I, REG Inc.**, South San Francisco, CA  
Performed routine high-throughput GC-FID analysis of oil samples and analyzed observed unknowns by GC-MS, as well organic acid analysis by HPLC. Performed maintenance operations as necessary. Developed software for high-throughput data analysis.

June 2012 – January 2014 **Intern, LS9 Inc.**, South San Francisco, CA  
Analyzed liquid organic phase samples by high-throughput GC-FID and identified unknown compounds as necessary. Developed a high-throughput titer assay by FTIR.

### LEADERSHIP EXPERIENCE

2011 **Senior Counselor**, Camp Timanous, Raymond, ME  
Planned and led outdoor canoeing and hiking trips for an all boys summer camp.

2010 – 2012 **Residential Coordinator**, Deans of Students Office, Bates College, Lewiston, ME  
Fostered a sense of community and safe living environment among several upper class houses.

2009 – 2010 **Junior Advisor**, Deans of Students Office, Bates College, Lewiston, ME  
Introduced twenty first-year students to Bates College and the surrounding community by hosting educational activities and off-campus events.