**Matthew Gentry**

Curriculum Vitae

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**EDUCATION**

**Ph. D. Atmospheric and Oceanic Sciences**  2017-present

*University of Colorado Boulder, Advisor: Jen Kay*

**B.S. Chemistry** 2013-2017

**B.S. Physics**

*University of Massachusetts Amherst, Advisor: Ricardo Metz*

Senior Thesis: Photofragment Imaging and Spectroscopy of MnO+

Minor in Mathematics

**RESEARCH EXPERIENCE**

**Research Assistant** 2018-present

*Cooperative Institute for Research in Environmental Sciences, University of Colorado Boulder*

Supervisor: Jen Kay

Assessed the sensitivity of Southern Ocean biogechemistry to model cloud albedo using supercomputing and Python.

**Undergraduate Researcher** 2015-2017

*Department of Chemistry, University of Massachusetts Amherst*

Supervisor: Ricardo Metz

Used a unique experimental set-up to study the photodissociation of gas-phase metal-oxides.

**Summer Undergraduate Research Fellow in Oceanography (SURFO)** Summer 2016

*Graduate School of Oceanography and Department of Cellular and Molecular Biology, University of Rhode Island*

Supervisor: Ying Zhang

Developed methods in Python for data assimilation in computer models of bacterial metabolism. Compared the efficacy of different methods.

**Lab Technician** Summer 2013

*Department of Biomedical Engineering, Cornell University*

Supervisor: David Putnam

Measured the protein yield of bacterial cultures to determine the optimal growth time for maximizing protein yield.

**TEACHING EXPERIENCE**

**Science Tutor** Fall 2018 -Present

*Herbst Academic Center, University of Colorado Boulder*

Courses Tutored: Weather and the atmosphere, Our changing environment, Principles of climate, Intro. Oceanography, General chemistry, Environmental Chemistry

**Teaching Assistant, ATOC 1070: Weather and Atmosphere Lab** Fall 2017-Spring 2018

*Department of Atmospheric and Oceanic Sciences, University of Colorado Boulder*

**Undergraduate Grader, Introductory Physics I** Spring 2017

*Department of Physics, UMass*

**Independent Study in STEM Education** Spring 2016

*Department of Physics, UMass*

**Undergraduate TA, Introductory Physics I** Spring 2016

*Department of Physics, UMass*

**Youth Group Volunteer** 2017-present

*First Congregational Church of Boulder, mentored high school youth*

**PUBLICATIONS**

Johnston, M.D.; Gentry, M.R.; Metz, R.B. Photofragment Imaging, Spectroscopy, and Theory of MnO+. *J. Physical Chemistry A* **2018**

**AWARDS AND FELLOWSHIPS**

**Phi Beta Kappa** 2017

**UMass Hypercube Scholar Award research in physical chemistry** 2017

**American Council of Independent Laboratories ILI Scholarship** 2016

**Summer Undergraduate Research Fellowship in Oceanography** 2016 **UMass Honors undergraduate research assistant fellowship**  2015-2017

**SERVICE AND OUTREACH**

**CU Department of Atmospheric and Oceanic Sciences Student Forum Organizer** 2017-present

Organized weekly meetings devoted to guest speakers, graduate student issues, research, and professional development.

**CU Department of Atmospheric and Oceanic Sciences Committees** 2017-present

Teaching Labs, Program Fees

**UMass ACS Student Club** 2016-2017

Helped with fundraising. Participated in museum trips, seminars.

**SCIENTIFIC PRESENTATIONS**

Gentry, M.R., Lovenduski, N.S., Schneider, D.P. Kay, J.E.; How do Clouds affect the Physical Climate of the Southern Ocean, and in turn the Biology? (December 2018). *AGU Fall Meeting, Washington, D.C.* poster.

Gentry, M.R.; Lovenduski, N.S.; Schneider, D.P.; Kay, J.E. Cloud changes affect Southern Ocean sea ice and biology in the Community Earth System Model (CESM) (October 2018). *CFMIP Meeting on Clouds, Precipitation, Circulation, and Climate Sensitivity, Boulder, CO.* poster.

Johnston, M.D.; Gentry, M.R.; Metz, R.B. Photofragment Imaging and Spectroscopy of MnO+ (May 2017). *UMass Senior Thesis Defense, Amherst, MA,* talk.

Gentry, M.R.; Christensen, M.; Gibney, J; Using Monte Carlo Methods to Determine Muon Mass. (December 2016), *UMass Senior Physics Laboratory Final Presentations, Amherst, MA,* poster.

Gentry, M.R., Tools for the Integration of Gene Expression Data into Metabolic Models (August 2016). *URI-GSO-SURFO Final Presentations, Narragansett RI,* talk.

**MEMBERSHIPS**

American Geophysical Union, 2018-present

**SKILLS**

*Computing* Python, MATLAB, Linux, Numerical Simulation

*Laboratory* Spectroscopy, analytical chemistry, microbiology, biochemistry

*Language* Basic Spanish

*Hobbies* Music, skiing, game design, cooking