



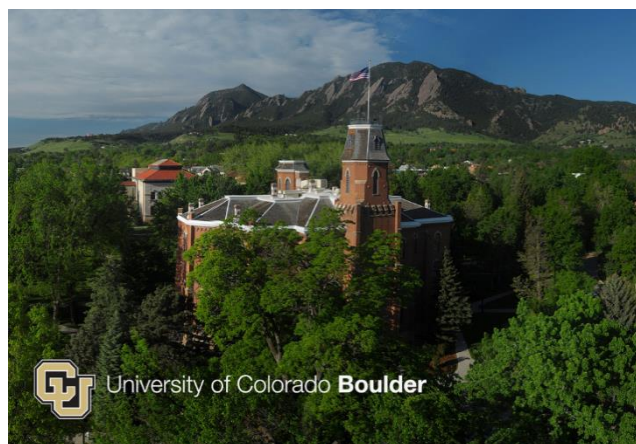
# Chemistry and Biochemistry

UNIVERSITY OF COLORADO BOULDER

## Graduate Research in Analytical, Environmental and Atmospheric Chemistry

### Our Research and Facilities:

- Strong atmospheric chemistry focus within the Department of Chemistry
- World-class laboratory and field programs
  - Aircraft, ship, and ground-based field research
  - New simulation chamber facility
  - State-of-the-art instrumentation
- National and international collaborations across departments/fields and with the nearby national labs
- Part of the vibrant atmospheric chemistry community in Boulder – the area with the highest number of atmospheric scientists and chemists in the world
- \$4 million/yr research budget, ~50 papers/yr



### Boulder, CO:

- 300 days of sun
- Bike and pedestrian friendly
- Skiing, biking, hiking, climbing, and more
- Lively downtown (Pearl St)
- 30 min. to Denver
- [vimeo.com/181645979](https://vimeo.com/181645979)

### Our Program:

- ~30 grad students and ~10 postdocs/res. scientists
- Part of the larger Chem. Dept. community
- Our graduates have careers in national labs, academia, industry, policy & government



## Examples of Recent Student Research



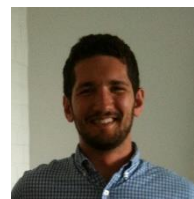
**Allison Harris,**  
Vaida Lab

Multiphase photochemistry of keto-acids under atmospheric conditions  
[colorado.edu/lab/vaidagroup/allison-e-reed-harris](http://colorado.edu/lab/vaidagroup/allison-e-reed-harris)

*J. Phys Chem. A* publication:  
[pubs.acs.org/doi/full/10.1021/jp502186q](https://pubs.acs.org/doi/full/10.1021/jp502186q)

Quantifying gas-surface partitioning of semi- and low-volatility compounds and the impact on organic aerosol yield  
[cires1.colorado.edu/jimenez-group/group\\_alumni.html](http://cires1.colorado.edu/jimenez-group/group_alumni.html)

*Environ. Sci. Tech.* publication:  
[pubs.acs.org/doi/abs/10.1021/acs.est.6b00606](https://pubs.acs.org/doi/abs/10.1021/acs.est.6b00606)



**Jordan Krechmer,**  
Jimenez Lab

## Our Faculty



**Eleanor Browne**

[sites.google.com/a/colorado.edu/brownelab](http://sites.google.com/a/colorado.edu/brownelab)

Laboratory and field studies of organonitrogen and organosilicon chemistry, instrument development



**Steven Brown (adjoint)**

[esrl.noaa.gov/csd/staff/steven.s.brown](http://esrl.noaa.gov/csd/staff/steven.s.brown)

Atmospheric nitrogen oxides, nighttime tropospheric chemistry, and high-sensitivity optical instrumentation



**Joost de Gouw (adjoint)**

[cires.colorado.edu/council-fellows/joost-de-gouw](http://cires.colorado.edu/council-fellows/joost-de-gouw)

Volatile organic compounds in the atmosphere, mass spectrometry, atmospheric impact of energy systems



**Jose-Luis Jimenez**

[cires.colorado.edu/jimenez](http://cires.colorado.edu/jimenez)

Aerosol composition and sources, aircraft and simulation chamber studies, advanced instrumentation

**Margaret Tolbert**

[cires.colorado.edu/research/research-groups/margaret-tolbert-group](http://cires.colorado.edu/research/research-groups/margaret-tolbert-group)

Laboratory studies of particulate matter on Earth, Mars, and Titan



**Rainer Volkamer**

[ciresgroups.colorado.edu/volkamergroup](http://ciresgroups.colorado.edu/volkamergroup)

Lab and field measurements of radicals and trace gases, air-sea exchange, agriculture, advanced optical in-situ and remote sensing instrumentation



**Veronica Vaida**

[colorado.edu/lab/vaidagroup](http://colorado.edu/lab/vaidagroup)

Spectroscopy and reactivity of atmospheric molecules and radicals



**Paul Ziemann**

[sites.google.com/site/ziemanngroup](http://sites.google.com/site/ziemanngroup)

Laboratory studies of the products, mechanisms, and kinetics of atmospheric oxidation of organic compounds and aerosol formation



## Collaboration Opportunities



The Cooperative Institute for Research in Environmental Sciences (CIRES) is a joint research partnership that connects scientists at NOAA and several different departments at CU.

NCAR | National Center for  
UCAR | Atmospheric Research

NCAR studies the behavior of the atmosphere and related Earth and geospace systems.



RASEI is a joint institute between CU-Boulder and the National Renewable Energy Laboratory (NREL) addressing complex problems in energy with a multidisciplinary, multi-institutional approach.

Interested? Applications for Fall 2018 admission into the Department of Chemistry Ph.D. program are due the 1<sup>st</sup> of December 2017.

More information here:

[tinyurl.com/ANYL-1st](http://tinyurl.com/ANYL-1st) and [colorado.edu/chembio/prospective-graduate/admission](http://colorado.edu/chembio/prospective-graduate/admission)