PhD Program in Analytical, Environmental, and Atmospheric Chemistry

Our Research and Facilities:
- CU-Boulder ranked #1 in Atmospheric science worldwide (2019 Shanghai Ranking)
- World-class laboratory and field programs
  - Aircraft, ship, and ground-based field research
  - New simulation chamber facility
  - State-of-the-art instrumentation
- Collaborations across departments/fields, nationally and internationally, and with the nearby national labs
  - The Boulder area has the largest number of atmospheric scientists and chemists worldwide
- $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

Our Program:
- ~30 grad students and ~10 postdocs/res. scientists
- Atmospheric chemistry focus within the Chemistry Dept.
- Graduates have careers in national labs, academia, industry, policy & government

Department of Chemistry
UNIVERSITY OF COLORADO BOULDER

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Interested? Applications for admission into the Department of Chemistry PhD program are due the 1st of December 2019, for students starting in Aug. 2020. Opportunities for under-represented students can be found at colorado.edu/smart/ More application information here: tinyurl.com/ANYL-1st and colorado.edu/chemistry/prospective-graduate/admission

Examples of Recent Student Research

Natalie Kille, Volkamer Lab
The CU Mobile Solar Occultation Flux Instrument: structure functions and emission rates of NH₃, NO₂ and C₂H₆ volkamergroup.colorado.edu/people/natalie-kille

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

Environ. Sci. Tech. publication: pubs.acs.org/doi/abs/10.1021/acs.est.6b00606

Our Faculty

Eleanor Browne
sites.google.com/view/brownelab
Laboratory and field studies of organonitrogen and organosilicon chemistry, instrument development

Margaret Tolbert
cires.colorado.edu/research/research-groups/margaret-tolbert-group
Laboratory studies of particulate matter on Earth, Mars, and Titan

Steven Brown (adjoint)
colorado.edu/lab/browngroup
Atmospheric nitrogen oxides, nighttime tropospheric chemistry, and high-sensitivity optical instrumentation

Rainer Volkamer
volkamergroup.colorado.edu/
Small molecules, radicals and aerosols; advanced optical instrumentation; air-surface exchange; oceans; wildfires; energy & environment

Joost de Gouw
sites.google.com/view/de-gouw-lab
Volatile organic compounds in the atmosphere, mass spectrometry, atmospheric impact of energy systems

Veronica Vaida
colorado.edu/lab/vaidagroup
Spectroscopy and reactivity of atmospheric molecules and radicals

Jose-Luis Jimenez
cires.colorado.edu/jimenez
Aerosol composition and sources, aircraft and simulation chamber studies, advanced instrumentation, modeling

Paul Ziemann
sites.google.com/site/ziemanngroup
Laboratory studies of the products, mechanisms, and kinetics of atmospheric oxidation of organic compounds and aerosol formation; indoor air chemistry

Collaborating Institutions

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

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.