

CURRICULUM VITAE

Ellyn Gray
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EDUCATION:

University of California, Berkeley, PhD Student
Major: Environmental Science, Policy, and Management
GPA: 3.7

University of California, Los Angeles, B.S., 2014
Major: Atmospheric, Oceanic, and Environmental Science
GPA: 3.6

RESEARCH EXPERIENCE:

Sept 2014 – Present **Graduate Research Assistant**
Atmospheric Chemistry, UCB; PI: Allen Goldstein
National Science Foundation Graduate Fellow

- Currently using ground and remote sensing measurements (MODIS) to investigate the impact of fluctuating concentrations of NO_x and SO₂ on local formation of radiation fog in CA's Central Valley
- Collaboration with the Institute of Atmospheric Sciences and Climate in Bologna, Italy to extend analysis in Europe

April – Aug 2014 **Year-Long Intern**
NASA Jet Propulsion Laboratory; PI: Carol Bruegge, PhD

- Participated in collaborative field deployment of surface reflectance measurements for satellite instruments on MISR, GOSAT, and OCO-2
- Worked with partners in Japan Aerospace Exploration Agency to determine best practices for vicarious calibration techniques
- Ran extensive post-campaign data analysis to determine the accurate calibration coefficients for instruments
- Determined the normalized bidirectional reflectance factor necessary to compute top of atmosphere radiances
- Contributed to assessment of MISR's 15 years of operation by reprocessing historical calibration data in order to identify sensor degradation, culminating in a publication of results

June 2013 - 2014 **Undergraduate Research Assistant**
Atmospheric and Oceanic Science, UCLA; PI: Jochen Stutz, PhD
URFP Scholar, December 2013 – June 2014

- Lab focused on the engineering of optical instruments used to detect atmospheric trace gases
- Deployed, operated, and analyzed data from ground remote sensing instruments in two field experiments: the Southern Oxidant and Aerosol

Study (SOAS) and the Carson Fence Line Field Campaign at Tesoro Refinery

- Awarded a Dean's Prize for Outstanding Undergraduate Research. Invited to present poster at UCLA's Grand Challenge initiative in 2014

WORK EXPERIENCE:

May - Aug 2012

STEM Research Assistant

Chemistry Department, Bakersfield College; Professor: Dr. Wilson Cooper

- Developed general chemistry curriculum for new classroom instrumentation, LabQuest, purchased and funded through NSF
- Mastered instrumentation to ease transition for professor and students

Dec 2007- Jan 2011

Academic Advisor

The Fashion Institute of Design and Merchandising (Full Time)

- Advised students on academic progress to support graduation rates
- Facilitated student-professor dialogue in academic disagreements
- Maintained web content and Student Learning Outcomes archive
- Contributed to WASC accreditation by writing department review

PUBLICATION

Bruegge, C., Val, S., Diner, D., Jovanovic, V., Gray, E., DiGirolamo, L., Zhao, G., "Radiometric stability of the Multi-angle Imaging SpectroRadiometer (MISR) following 15 years on-orbit." Proc. *SPIE* 9218, Earth Observing Systems XIX, 92180N (September 26, 2014); doi:10.1117/12.2062319.

PRESENTATION

Undergraduate poster session, "Refinery Fenceline Monitoring Using Multi-Axis Optical Absorption Spectroscopy to Determine Facility-Averaged Emission Flux." University of California, Los Angeles. 2014.

CalTech SFP-SIP Talk, "Vicarious Calibration for On-Orbit Instruments." NASA Jet Propulsion Laboratory. 2014.

RELEVANT COURSEWORK:

Major

Fundamentals of Air and Water Pollution, Atmospheric Chemistry and Air Pollution, Applied Climatology, Climate Change and Modeling, Remote Sensing, Atmospheric Physics: Radiation, Clouds, and Aerosols, Fundamentals of Dynamics and Thermodynamics, Tropical Climatology, Air Quality Engineering

Pre-Major

Calculus for Physical Scientists and Engineers I, II, III, Linear Algebra, Differential Equations, Engineering Physics I, II, III, Physics Laboratory, General Chemistry I, II, Chemistry Laboratory, Intro to C++, Intro to Probability and Statistics

LEADERSHIP EXPERIENCE:

- 2012-14 *Volunteer*, Building Mentors and Engineers
Conducted science experiments for elementary school students in underserved communities to encourage interest in science, engineering, technology, and math
- 2011-12 *Volunteer Tutor*, Bakersfield, CA
Tutored college students in Algebra through Calculus, Physics, Chemistry, Writing, and Political Science

GRADUATE FUNDING:

- 2015-18 National Science Foundation Graduate Research Fellowship
2014 UC Berkeley Environmental Science Department

AWARDS AND HONORS:

- 2014 Dean's Prize, UCLA Undergraduate Research Poster Session
2012 CRC Press Chemistry Achievement Award
2011-12 Physical Science Student of the Year
2012 Certificate of Achievement, Chemistry B1B
2011-12 Physical Science Department Award
2012 Norman Levan Center for Humanities Essay Award: \$1,000
2011-14 Awarded Dean's List

MERIT BASED SCHOLARSHIP:

- 2013-14 MacDowell Scholar Award: \$1,300
2013-14 Gottlieb Scholar Award: \$700
2013-14 Great Lake National STEM Scholarship: \$2,500
2013 Erin Brokovich Scholarship, UCLA: \$2,500
2013 AERA-MESA Scholarship: \$500
2012-13 Chevron STEM-MESA Merit Scholarship: \$2,000
2012-13 UCLA Scholarship Recognition Award: \$1,000
2012-13 Great Lakes National STEM Scholarship: \$2,500
2012-13 Norman Levan Scholarship: \$2,000

SPECIALIZED SKILLS:

Experience with IDL, Matlab, C++, Jscript; Background in OMNIC, IMACC, DOASIS; Strong Microsoft Word, Excel, PowerPoint; Advanced Adobe Photoshop & Illustrator CS