

# Adam Bateman

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## Education

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### University of California, Irvine

Ph.D. Candidate in Atmospheric Chemistry  
Thesis Advisor: Prof. Sergey Nizkorodov

Anticipated 2010

### University of California, Santa Barbara

B.S. degree in Chemistry, G.P.A. 3.67

June 2006

### Santa Barbara City College

A.S. degrees in Chemistry, Physics, Mathematics, G.P.A. 3.3

June 2004

## Research Experience

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### Graduate Researcher, University of California, Irvine

2006 - Present

#### Department of Chemistry, Research Advisor: Prof. Sergey Nizkorodov

Research focuses on photochemistry of atmospheric organic aerosol of biogenic and anthropogenic origin.

Experimental techniques include cavity ring-down infrared spectroscopy, high-resolution mass spectrometry and standard aerosol characterization techniques.

### Visting Scientist, Summer Research Institute

2007 and 2008

#### Pacific Northwest National Laboratory, W.R. Wiley Environmental Molecular Sciences Laboratory,

#### Research Mentors : Drs. Alexander and Julia Laskin

Research focused on high-resolution electrospray ionization mass spectrometry of secondary organic aerosol.

Advanced data analysis techniques and solution preparation skills were developed. The chemical composition of SOA was analyzed via time and size separations using advanced impaction techniques.

### Undergraduate Researcher, University of California, Santa Barbara

09/2005 - 06/2006

#### Department of Chemistry, Research Advisor: Prof. Alec Wodtke

Aided in the construction of an ultra-high vacuum apparatus, in particular, mounting of a quadrupole mass spectrometer. Gained experience in metal shop work and electronics construction.

### Undergraduate Researcher, University of California, Santa Barbara

01/2005 - 06/2005

#### Department of Chemistry, Research Advisor: Prof. Horia Metiu

Studied dynamics of the water-gas shift reaction on cerium oxides using quantum mechanics. Gained experience with Unix shell/commands, Fortran programming, and VASP file framework.

## Work Experience

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### Grocery Stocker/Cashier. Trader Joes. Goleta, California.

09/2001 - 06/2006

Senior Co-Worker, was involved in training and hiring of new recruits.

### Night Manager. Kinkos. Goleta, California.

04/2000 - 09/2001

Managed co-workers, coordinated projects, and also involved in customer service.

## Publications

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Time-resolved molecular characterization of limonene/ozone aerosol using high-resolution electrospray ionization mass spectrometry, A.P. Bateman, J. Laskin, A. Laskin, S.A. Nizkorodov, *Phys. Chem. Chem. Phys.*, **2009**, submitted

The effect of solvent on the analysis of secondary organic aerosol using electrospray ionization mass spectrometry, A. P. Bateman, M. L. Walser, Y. Desyaterik, J. Laskin, A. Laskin, S. A. Nizkorodov, *Env. Sci. & Tech.*, **2008**, 42, 7341.

Contribution of carbonyl functional photochemistry to aging of atmospheric secondary organic aerosol, S.A. Mang, A.P. Bateman, M. Anderson, D. Blake, S.A. Nizkorodov, *J. Phys. Chem. A.*, **2008**, 112, 8337.

Photochemistry of secondary organic aerosol formed from oxidation of monoterpenes, S.A. Mang, M.L. Walser, X. Pan, J.H. Xing, A.P. Bateman, J.S. Underwood, A.L. Gomez, J. Park, and S.A. Nizkorodov, *Atmospheric Aerosols: Characterization, Chemistry, and Modeling (ACS Symposium Series)* Valsaraj, K. T., Kommalapati, R. R., Eds., **2009**, 216 pages. ISBN13: 9780841269736; ISBN10: 0841269734

## Oral Presentations

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AirUCI Annual Workshop, January 2009, Laguna Beach, CA "**Chemical composition of secondary organic aerosol as a function of particle size and reaction time**"

Original Proposal for Ph.D. Candidacy, December, 2008, Irvine, CA "**Probing vibrationally mediated electron transfer to surfaces**"

Research Progress for Ph.D. Candidacy, December, 2008, Irvine, CA "**Chemical composition of secondary organic aerosol constituents: Photochemical and dark aging**"

AirUCI Seminar, May, 2008, Irvine, CA "**Secondary organic aerosol: High-resolution ESI-MS analysis**"

235<sup>th</sup> American Chemical Society National Meeting, April, 2008, New Orleans, LA "**Analysis of organic aerosol constituents using high resolution ESI-MS: Solvent-analyte reactions and selection of appropriate solvents**"

Tour guide. AirUCI Community Outreach Day, University of California, Irvine, March, 2007.

## Poster Presentations

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Informal Symposium on Kinetics and Photochemistry in the Atmosphere, February, 2009, Riverside, CA. "**Analysis of secondary organic aerosol using high resolution electrospray ionization mass spectrometry**" Adam .P. Bateman, Tran B. Nguyen, Maggie L. Walser, Yury Desyaterik, Julia Laskin, Alex Laskin, Sergey A. Nizkorodov

## Awards Received

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Graduate Research Environmental Fellowship (GREF), U.S. Department of Energy, Office of Biological and Environmental Research, Global Change Education Program, **2008 - 2010**

Graduate Assistance in Areas of National Need Fellow (GAANN), **2006 - 2007**

Phi Lambda Upsilon Award, University of California, Santa Barbara Department of Chemistry, **2006**. Awarded to top twenty percent of graduating class in Chemistry at UCSB, based on GPA.

Deans Honor, University of California, Santa Barbara Department of Chemistry, Spring 2005, Fall 2005, Winter 2006. Awarded to students with GPA greater than 3.75.

## Professional Affiliations

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American Chemical Society  
American Association for the Advancement of Science