Anna Mebust

Graduate Institution: University of California

Location: Berkeley, CA

Graduate Discipline: Chemistry

Hometown: Minneapolis, MN

Research Interests:

My current research aims to constrain the effects of wildfire emissions of NO_x ($NO + NO_2$) on local, regional and global air quality, as well as their influence on radiative forcing and global climate change. Wildfire emissions of NO_x impact the formation of tropospheric ozone and secondary organic aerosol, ecosystem eutrophication and acidification, and the atmospheric lifetime of various greenhouse gases. Additionally, climate change may act to increase fire activity over the next century; reliable measures of wildfire NO_x emissions are required to evaluate the effects of this increase. Thus far, my work has focused on improving the parameterization of wildfire NO_x emissions used in atmospheric models, partly through the use of satellite data; future work will incorporate these improved measures of emissions into chemical transport and climate models to reduce uncertainties in regional and global NO_x emissions estimates.

Another project I am working on will incorporate NO_2 concentration data obtained by satellite instruments into a chemical data assimilation system. I also performed research as an undergraduate, exploring methods to induce selectivity in metal oxide thin film gas microsensor arrays. I welcome questions about any of these projects.

About me:

I attended Pomona College in Claremont, CA for my undergraduate education, graduating cum laude in 2008 with double majors in mathematics and chemistry. I came to Berkeley as a graduate student in chemistry in the fall of 2008, and am now a Ph.D. candidate in the Ron Cohen group (http://www.cchem.berkeley.edu/rccgrp/). I am very passionate about teaching; I graded and mentored extensively at Pomona, and have been a TA for general and analytical chemistry classes at Berkeley. I am a member of the American Geophysical Union, Phi Beta Kappa, and Sigma Xi. In my spare time, I play and occasionally coach competitive Ultimate Frisbee, and am a member of the University of California Ballroom Dance team, where I also hold an officer position as coordinator for the team's social dance program. I love all forms of dance and music, and also enjoy cooking and baking as a creative process.