

AUSTEN K. SCRUGGS

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EDUCATION

California State University Fresno, CA

B.S. Chemistry

Area of Concentration: Chemistry

Minor: Mathematics

Fall 2013

University of Georgia

Anticipated Ph.D. in 2020

Area of Concentration: Atmospheric Chemistry

Fall 2014-Present

AWARDS

California State University Hypercube Scholar Award: Excellence in Physical Chemistry

May 9th, 2013

NOTABLE INTERNSHIPS

Ames, IA

United States Department of Agriculture Internship under Leadership of Dr. Alam Hasson, Dr. Steven Trabue, and Kenwood Scoggin

The purpose of this internship was to analyze the atmospheric samples from select dairies and agricultural facilities for various volatile organic compounds that react with nitrogen oxides in the presence of sunlight to produce ozone. This internship involved utilization, calibration, modification, and repair of various field analytical instruments.

Summer 2010

Boulder, CO

National Center for Atmospheric Research Internship under leadership of Dr. Alam Hasson and Dr. Geoff Tyndall

This internship investigated the chemical kinetics of various atmospheric radicals reacting with the following volatile organics: 3-pentanone, diisopropyl ketone, and methyl isopropyl ketone. The chemical kinetics and mechanism for the reaction of various Isoprene Hydroxy-Nitrate isomers with ozone, nitrate, and hydroxyl radicals were also investigated utilizing Fourier Transform Infrared Spectroscopy (FT-IR) and Gas Chromatography Flame Ionization Detection (GC-FID). Kinetic data was evaluated via the chemical modeling software, Acu-Chem.

Summer 2011

Ames, IA

United States Department of Agriculture Internship under leadership of Dr. Alam Hasson, Dr. Steven Trabue, and Kenwood Scoggin

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Summer 2012

Boulder, CO

National Center for Atmospheric Research Internship under leadership of Dr. Alam Hasson, Dr. Geoff Tyndall, and Dr. John Orlando

The chemical mechanism for the reaction of isoprene hydroperoxide with hydroxyl and peroxy radicals was investigated via Fourier Transform Infrared Spectroscopy (FT-IR) and Gas Chromatography-Flame Ionization Detection (GC-FID) instrumentation. The chemical mechanism for the reaction of various Isoprene Hydroxy-Nitrate isomers with ozone, nitrate, and hydroxyl radicals were investigated utilizing the same instrumentation. Kinetic data was evaluated via the chemical modeling software, Acu-Chem.

Summer 2013

PUBLICATIONS

1. Middala, S.; Campbell, S.; Olea, C.; Scruggs, A.; Hasson, A. S., Kinetics and mechanism of the reaction of propylene oxide with chlorine atoms and hydroxy radicals. *International Journal of Chemical Kinetics* 2011, 43 (9), 507-521
2. Hasson, A. S., Ogunjemiyo, S. O., Trabue, S., Ashkan, S., Scoggin, K., Steele, J., Olea C., Middala, S., Vu, K., Scruggs, A., Addala, R., Nana, L. NOx emissions from a Central California dairy. *Atmospheric Environment* 2013, 70, 328-336

PRESENTATIONS AND CONFERENCES

University of California, Irvine **Spring 2011**
28th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere,

Poster: Emissions Measurements of Selected VOCs from a Central California Dairy

Jeff Cole¹, Srikar Middala¹, Kennedy Vu¹, Lucien Nana¹, Austen Scruggs¹, Catalina Olea¹ and Dr. Alam Hasson¹,
¹Department of Chemistry, California State University, Fresno.

Anaheim, CA **Spring 2011**
American Chemical Society National Meeting 241st American Chemical Society National Meeting

Poster Presentation: Synthesis, characterization, and gas phase study of isoprene nitrates.

¹Maitra, S.; ¹Jackson, J.J.; ¹Hasson, A.S.
¹Department of Chemistry, California State University, Fresno.

California State University, Fresno **Spring 2012**
Central California Research Symposium

Oral presentation: Concentrations of Volatile Fatty Acids Downwind from a California Dairy

Austen Scruggs¹, Sean Campbell¹, Catalina Olea¹, Alvaro Sosa¹, Jeff Cole¹, Lucien Nana¹, Kennedy Vu¹, Srikar Middala¹, and Dr. Alam Hasson¹,

¹Department of Chemistry, California State University, Fresno.

California State University Fullerton, CA **Spring 2012**
29th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere

Poster presentation: Concentrations of Selected Organics Downwind from a California Dairy

Aroob Abdelhamid¹, Austen Scruggs¹, Sean Campbell¹, Catalina Olea¹, Alvaro Sosa¹, Jeff Cole¹, Lucien Nana¹, Kennedy Vu¹, Srikar Middala¹, and Dr. Alam Hasson¹,

¹Department of Chemistry, California State University, Fresno.

California State University Fresno, CA **Spring 2013**
Central California Research Symposium

Oral presentation: Concentrations of Select Organics Downwind from a California Dairy

Dr. Alam Hasson¹, Dr. Segun Ogunjemiyo², Shawn Ashkan³, Srikar Middala¹, Kennedy Vu¹, Laxmi R. Addala¹, Lucien Nana¹, *Austen Scruggs¹, Catalina Olea¹, Julie Steele², Thomas C. Shelton², Brenda Osborne² and James R. McHenry²,

¹Department of Chemistry, California State University, Fresno.

²Department of Geography, California State University, Fresno.

³Center for Irrigation Technology, California State University, Fresno.

New Orleans, LA **Spring 2013**
American Chemical Society Conference: Communicating Cajun Cooking Chemistry (C4) Competition

***Oral and Poster Presentation: Roux Dimentary**

*Candice Mahler¹, *Austen Scruggs¹,* Brittany Bevier¹, *Ryan Dougherty¹, Donnie Golden¹, Dr. Klaus Tenbergen²,and Dr. Melissa Lynn Golden¹,

¹Department of Chemistry, California State University, Fresno.

²Department of Food Science and Nutrition, California State University, Fresno.

Raleigh, NC **Fall 2016**
AAAR 36th Annual Conference

Poster Presentation: The Development of a One Wavelength Polar Nephelometer for the Retrieval of Ambient Aerosol Refractive Indices via Reverse Mie Theory.

*Austen Scruggs and Geoffrey Smith

¹Department of Chemistry, University of Georgia