

Mallory Lynn Hinks

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Education

- Ph.D. in Chemistry - University of California Irvine (UCI) June 2017
M.S. in Chemistry - San Diego State University (SDSU) December 2011
Thesis: Mechanistic study of the production of silver nanoparticles
B.S. in Chemistry - San Diego State University (SDSU) May 2008

Research Experience

Nizkorodov Lab - *Graduate Student Researcher* 2013 - Present

- Investigated the effect of ammonia on the production and composition of secondary organic aerosols
- Studied the effect of viscosity on photochemistry inside secondary organic aerosols
- Designed and built an apparatus for the production of secondary organic aerosol
- Collaborated with research groups at Pacific Northwest National Laboratory and University of British Columbia

Finlayson-Pitts Lab - *Junior Specialist* June - September 2012

- Investigated the heterogeneous hydrolysis of NO₂ on silicon powder using diffuse reflectance infrared fourier transform spectroscopy

Pullman Lab - *Graduate Student Researcher* 2008- 2011

- Studied the mechanism of the production of silver nanoparticles
- Built an ultrahigh vacuum chamber for the purpose of monitoring H₂ gas released during synthesis of silver nanoparticles by mass spectrometry

Pullman Lab - *Undergraduate Student Researcher* 2007 - 2008

- Explored methods for reducing the background hydrogen signal in a mass spectrometer in an ultra-high vacuum environment

Teaching Experience

UCI Department of Molecular Biology and Biochemistry - Teaching Assistant
• *Science Communication Skills* Spring 2016

Taught graduate students how to communicate their research to general audiences in writing and oral presentations

UCI Department of Chemistry - Teaching Assistant
• *General Chemistry Discussion* Winter 2016
• *General Chemistry Laboratory* Fall 2012, Winter 2013
• *Analytical Chemistry Laboratory* Spring 2013

Taught students proper laboratory techniques and how to write laboratory reports

SDSU Department of Chemistry - Teaching Assistant
• *General Chemistry Discussion/Laboratory* 2008 - 2009, 2010 - 2011

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Leadership Experience

- Science Policy Group at University of California, Irvine 2015 - Present
- Founding member: Established the group as campus organization
 - Vice-President: Recruited new members and organized fundraisers
- Iota Sigma Pi - Calcium Chapter 2014 - Present
(National Honors Society for Women in Chemistry at UCI)
- Communications Officer: Designed and maintained club website and social media presence

Publications

- Hinks, M. L.**, Brady, M. V., Lignell, H., Song, M., Greyson, J., Bertram, A. K., Lin, P., Laskin, A., Laskin, J., Nizkorodov, S. A., Effect of viscosity on photodegradation rates in complex secondary organic materials. *Physical Chemistry Chemical Physics*. 2015.
- Lignell, H., **Hinks, M. L.**, Nizkorodov, S. A., Exploring matrix effects on photochemistry of organic aerosols. *Proceedings of the National Academy of Sciences of the United States of America*. 2014.
- Espinoza, M.G., **Hinks, M. L.**, Mendoza, A. M., Pullman, D. P., Peterson, K. I., Kinetics of Decomposition of Silver Nanoparticles Induced by Halide Ions. *Journal of Physical Chemistry C*. 2012, 116, 8305-8313

Conference Presentations

- Hinks, M. L.**, Montoya, J., Nizkorodov, S. A., Horne, J., Dabdub, D, Impact of Ammonia on Dynamics of Anthropogenic SOA Formation and Composition. *252nd ACS National Meeting*, Philadelphia, PA, August 2016
- Hinks, M. L.**, Brady, M. V., Lignell, H., Song, M., Greyson, J., Bertram, A. K., Lin, P., Laskin, A., Laskin, J., Nizkorodov, S. A., Viscosity effects on photochemical processes in secondary organic materials. *35th Annual AAAR Conference*, Portland, OR, October 2016
- Hinks, M. L.**, Brady, M. V., Lignell, H., Song, M., Greyson, J., Bertram, A. K., Lin, P., Laskin, A., Laskin, J., Nizkorodov, S. A., Effect of viscosity on photochemistry in secondary organic Material. *Pacificchem*, Honolulu, HI, December 2015
- Hinks, M. L.**, Lignell, H., Nizkorodov, S. A., Photochemistry in Atmospheric Condensed Phases: Exploring the Effects of Matrix. *248th ACS National Meeting*, San Francisco, CA, August 2014.

Awards and Honors

- Finalist* - American Chemical Society ChemChamps Competition June 2016
- Finalist* - UC system-wide Carbon Slam Competition May 2016
- 2nd Place* - UC system-wide Grad Slam Competition April 2016
- 1st Place* - UCI Grad Slam Competition April 2016
- Finalist* - GPS-BIOMED Elevator Pitch Competition November 2015
- Finalist* - UCI Grad Slam Competition April 2015
- 1st Place* - UCI AGS Symposium March 2015

Certificates

- American Meteorological Society's 10 day Summer Policy Colloquium June 2016
- Communication Consultant Training - UCI Graduate Resource Center April 2016
- Activate to Captivate 8 week Public Speaking Program March 2016

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Outreach

Science Fair Judge - Foothill Ranch Elementary School March 2016
Guest lectured on climate change at two high schools May 2015, October 2015
Participated in Ask-a-Scientist Night for IUSD Science Fair 2014, 2015
Volunteered during the Santa Ana Zoo National Chemistry Week Demos 2014, 2015
Led several laboratory tours/demos for high school classes field trips 2013 - 2016

Professional Affiliations

American Chemical Society (ACS)
American Geophysical Union (AGU)
American Meteorological Society (AMS)
Geological Society of America (GSA)

Selected Poster Presentations

Hinks, M. L., Brady, M. V., Chen, Y., Lignell, H., Song, M., Greyson, J., Bertram, A. K., Lin, P., Laskin, A., Laskin, J., Nizkorodov, S. A., Effect of viscosity on photodegradation rates of secondary organic materials. *33rd Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere*, Irvine, CA, March 2016

Hinks, M. L., Lignell, H., Nizkorodov, S. A., Photochemistry in Atmospheric Condensed Phases: Exploring the Effects of Matrix. *31st Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere*, Riverside, CA, March 2014

Hinks, M. L., Lignell, H., Nizkorodov, S. A., Photochemistry in Atmospheric Condensed Phases: Exploring the Effects of Matrix *AirUCI Collaborative Workshop in Chemistry at Interfaces*, Laguna Beach, CA, January 2014

Hinks, M. L., Pullman, D. P., Mechanistic Study of the Production of Silver Nanoparticles, *241st ACS National Meeting*, Anaheim, CA, March 2011

Espinoza, M.G., **Hinks, M. L.**, Peterson, K. I., Pullman, D. P., Kinetics of Decomposition of Silver Nanoparticles Induced by Halide Ions. *239th ACS National Meeting*, San Francisco, CA, March 2010

Skills

Photochemistry
Mass Spectrometry
Ultra-high Vacuum
UV-Vis Spectroscopy
SEM
Raman Spectroscopy and Microscopy
Igor PRO
Mathematica
LabView
Microsoft Office