

# Gabrielle Anne LAGUISMA

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## EDUCATION

*Master of Engineering in Nuclear Engineering* May 2016  
Concentration in Nuclear Waste & Materials Management  
University of California, Berkeley, Berkeley, CA

*Bachelor of Science in Physics* May 2015  
*Bachelor of Science in Chemistry* May 2015  
Minor in Mathematics  
University of San Francisco, San Francisco, CA

## RESEARCH EXPERIENCE

*Beamline Scientist, Swiss Light Source* June 2013 – March 2015  
Paul Scherrer Institut (PSI), Villigen, Switzerland

- Collaborative work to enhance the understanding of cellulosic biofuel generation and use
- Organized, managed, and coordinated efforts between USF and PSI
- Operated synchrotron beamline and PEPICO instrument to characterize biofuel reaction pathways
- Determined the dissociation pathway of furfural using photoelectron photoion coincidence spectroscopy

*Beamline Scientist, Advanced Light Source* September 2011 – March 2015  
Lawrence Berkeley National Laboratory, Berkeley, CA

- Carried out experiments and analyzed data to research the combustion of novel biofuels for advanced compression engines
- Performed mass spectrometry experiments to characterize biofuel reaction products and intermediates
- Performed 3-dimensional data analysis, electronic structure modeling, and quantum calculations

## SELECTED WORKS

*Centralized Interim Storage for Used Nuclear Fuel* Sept 2015 – May 2016  
Master's Thesis

- Provided an analysis on policy, economics, and technological issues to implement a privatized centralized interim storage facility for used nuclear fuel
- Addressed energy and environmental policies to develop a long-term business opportunity
- Developed economic models and deployment scheme to enable long-term financial stability
- Developed a mathematical program capable of estimating dose values from accident-released radionuclides using Matlab

*Daedalus: Enhancing Natural Processes for Global Good* Oct 2015 – April 2016  
Big Ideas@Berkeley Competition

- Proposed an electrochemical process that enhances carbon mitigation and ocean deacidification
- Investigated needs and concerns of various stakeholders to determine business opportunity

## HONORS & AWARDS

Finalist, Big Ideas@Berkeley Competition, University of California, Berkeley  
Innovations and Entrepreneurship Award in Chemistry, NovaBay Pharma  
Honorary National Mathematics Society, California Rho Chapter Inductee  
Undergraduate Research Award for Scientific Poster, University of San Francisco  
Outstanding Achievement in Physical Chemistry, University of San Francisco

## LEADERSHIP

*Social Representative*, UC Berkeley M.Eng & M.T.M. 2016 Cohort  
*President*, American Chemical Society, USF Chapter  
*Secretary*, National Society of Collegiate Scholars, USF Chapter