

# Alexandra (Sasha) Asghari

4155 Etcheverry Hall, MC 1730,  
University of California, Berkeley

Email: [Asghari@berkeley.edu](mailto:Asghari@berkeley.edu)  
Website: <https://alexandraasghari.wordpress.com/>

## Education

**Ph.D. – University of California, Berkeley** Expected Graduation May 2016  
**Nuclear Engineering**  
**National Science Foundation Graduate Fellow**

B.S. – California State University, Sacramento June 2012  
Physics, with Honors  
Certificates: Scientific Instrument Development and Scientific Computing

## Dissertation Research Experience

**Graduate Student Researcher – Lawrence Livermore National Laboratory** 2012-Current

- Research focuses on a novel radiation detector: the Water Neutron Detector (WaND) and its potential applicability to IAEA safeguards
- Involved in all aspects of detector characterization including assembly, electronics setup, experiment planning, laboratory testing, data analysis, and writing/publishing final reports
- Led an independent investigation to determine technology application in IAEA safeguards

## Skills

### Technical

- Strong creative problem solving ability demonstrated through analytical and hands-on research projects
- Five years experience prototyping, building, testing, calibrating, integrating mechanical and electronic systems, and analyzing radiation detectors
- Extensive experience in data analysis and interpretation of complex relationships using C++ and Root. Scientific simulation and modeling using Geant4 Monte Carlo package. Experimental data acquisition and analysis using LabView
- Experience with metal working and machining

### Leadership

- Two years experience leading an independent and multidisciplinary research project that produced a paper (submitted to journal, peer review in progress). Five years experience as team member in various scientific endeavors
- Excellent communicator of science to technical and non-technical audiences
- Adaptability in a variety of technical and cultural situations

### Business

- Excellent written (published papers) and oral (presentation, teaching, personal) communication skills
- Demonstrated ability to uphold project deadlines in group and independent projects
- Understanding of small business marketing and client relations

## Employment History

- Graduate Student Researcher  
Dissertation research  
Lawrence Livermore National Laboratory  
2012-Current
- Graduate Student Instructor  
“Physics for Future Presidents”  
“Radiation Detection and Nuclear Instrumentation Laboratory”  
“Nuclear Reactions and Radiation”  
University of California, Berkeley  
Fall 2014  
Spring 2013  
Fall 2012
- Undergraduate Student Researcher  
Experimentation research on readouts for silicon detectors.  
University of California, Davis  
2010 – 2012
- Undergraduate Student Researcher  
Experimentation research on gaseous micropattern detector.  
CERN, Geneva, Switzerland  
Summer 2010
- Student Intern  
Assisted with grant allocation.  
California Energy Commission  
2008 - 2009

## Conference Presentations

A. Asghari, S. Dazeley, A. Bernstein. “Applications of water-based neutron detectors for nuclear safeguards and security.” Institute of Nuclear Materials Management 56<sup>th</sup> Annual Meeting, 2015. **Oral presentation.**

A. Asghari, N. Egel, B. Goldblum, E. Suzuki, S. Srinivasan, A. Ureche, A. Vidyarthi, D. Weisz. “Looking forward: A framework for robust IAEA neutron detection capabilities.” Security and Arms Control Webinar, June 2015. **Webinar.**

A. Asghari. “Looking Forward: The Need for Alternatives to Helium-3 in IAEA Safeguards.” Summer Symposium on Science and World Affairs, 2014. **Invited oral presentation.**

A. Asghari, S. Dazeley, A. Bernstein, K. van Bibber, N. Bowden, V. Mozin. “Novel Water-Based Neutron Multiplicity Counter,” Symposium on Radiation Measurements and Applications, 2014. **Poster.**

S. Srinivasan, A. Asghari, N. Egel, B. Goldblum, L. Morales, E. Suzuki, A. Ureche, A. Vidyarthi, D. Weisz. “Looking Forward: Need for Alternatives to Helium-3 in IAEA Safeguards,” University and Industry Technical Interchange 2014. **Poster.**

A. Asghari, K. van Bibber, N. Bowden, A. Bernstein, S. Dazeley, V. Mozin. “Novel Water-based Neutron Multiplicity Counter,” American Nuclear Society Winter Meeting and Technology Expo, 2013. **Poster.**

## Journal Articles

A. Asghari, S. Dazeley, A. Bernstein. “Applications of water-based neutron detectors for nuclear safeguards and security.” *Institute of Nuclear Materials Management 56<sup>th</sup> Annual Meeting Proceedings*, 2015.

S. Dazeley, A. Asghari, A. Bernstein, N.S. Bowden, V. Mozin. “Performance Characterization of a Water-based Multiplicity Counter,” *Institute of Nuclear Materials Management 55<sup>th</sup> Annual Meeting Proceedings*, 2014.

S. Dazeley, A. Asghari, A. Bernstein, N.S. Bowden, V. Mozina. “A Water-Based Neutron Detector as a Well Multiplicity Counter.” *Nuclear Instruments and Methods in Physics Research Section A*, January 2015.

M. Woods, R. G. Fields, B. Holbrook, R. L. Lander, A. Moskaleva, *et al.* “Development of Readout Interconnections for the Si-W Calorimeter of SiD.” *Journal of Instrumentation*, 2011.

C. Neher, R. L. Lander, A. Moskaleva, J. Pasner, M. Tripathi, M. Woods. “Further Developments in Gold-stud Bump Bonding.” *Journal of Instrumentation*, 2011.