Miloš Ivo Atz

Contact Information

Department of Nuclear Engineering
4116 Etcheverry Hall, MC 1730
University of California, Berkeley
Berkeley, CA, 94720-1730

mobile: (860) 918-6759
e-mail: milos.atz@berkeley.edu
website: https://milosatz.github.io

Ph.D.

University of California, Berkeley, Nuclear Engineering — **Aug 2014 – May 2019**

Advisor: Professor Massimiliano Fratoni
GPA: 3.80

M.S.

University of California, Berkeley, Nuclear Engineering — **Aug 2014 – May 2016**

Thesis: *Effect of initial enrichment and discharge burnup on the minimum critical mass of far-field depositions of fissile material from LWR spent fuel*
Advisor: Professor Joonhong Ahn

B.S.

University of Connecticut, Chemical Engineering — **Aug 2010 – May 2014**

Thesis: *Mechanism of insulin aggregation: Applied to Alzheimers disease*
Advisor: Professor Mu-Ping Nieh
GPA: 3.79; *magna cum laude*

Research Experience

University of California, Berkeley, Berkeley, CA — **Aug 2014 – present**
Graduate Research Assistant, Nuclear Waste Management Group
Developing analysis tools to study the nuclear fuel cycle and waste management by leveraging the data produced in the DOE Fuel Cycle Evaluation and Screening study.

University of Connecticut, Storrs, CT — **Sep 2012 – May 2014**
Undergraduate Research Assistant
Studied the reversibility of insulin protein dimerization to understand potential pathways for reversing the onset of Alzheimer's disease.

Idaho National Laboratory, Idaho Falls, ID — **Jun – Aug 2013**
SULI Research Intern, Energy Resource Recovery and Sustainability Department
Developed thermal models to understand corn stover biofuel feedstock degradation and the distribution of heat in cold crucible induction melters for application in nuclear waste disposal.

UTC Power, South Windsor, CT — **Jun – Aug 2012**
Cell Stack Research Intern
Studied subscale fuel cells to assess feasibility of replace the purge gas with a cheaper alternative. Performed thermal conductivity tests on fuel cell components to correct model correlations.

Honors and Awards

National Science Foundation Graduate Research Fellowship	**2015 – present**
First place, Nuclear Innovation Bootcamp	**Summer 2016**
UC Berkeley Nuclear Engineering Thomas Pigford Award	**Spring 2016**
Nuclear Regulatory Commission Graduate Fellowship	**Spring 2015**
United Technologies Corporation Engineering Scholarship	**2013 – 2014**
Honorable Mention (x2), Idaho National Laboratory Intern Poster Competition	**Summer 2013**
University of Connecticut Academic Excellence Scholarship	**2010 – 2014**

Journal Publications

[1] **M. Atz**, M. Fratoni. "Waste management strategies for advanced fuel cycles". In preparation.

[2] **M. Atz**, A. Salazar, F. Hirano, M. Fratoni, J. Ahn. "Assessment of the potential for criticality in the far-field of a used nuclear fuel repository". **Annals of Nuclear Energy** 124, pp 28-38, February 2019. doi.

Conference Proceedings

[3] **M. Atz**, M. Fratoni. "A Python Package for Fuel Cycle and Waste Management Analysis". Paper 19545. To appear in the **Proceedings of the Waste Management Symposium**, Phoenix, AZ, March 2019.

[4] **M. Atz**, M. Fratoni. "Impact of partitioning and transmutation on the back-end of the fuel cycle". **Proceedings of the OECD 15th International Exchange Meeting on Partitioning and Transmutation**, Manchester, UK, October 2018.

[5] A. Salazar, **M. Atz**, X. Liu, M. Fratoni. "The Criticality Safety Studies of Joonhong Ahn". **Transactions of the American Nuclear Society**, Vol. 116, San Francisco, CA, June 11-15, 2017.

[6] **M. Atz**, X. Liu, M. Fratoni, J. Ahn. "Material composition effects on far-field deposition minimum critical mass". **American Nuclear Society International High-Level Radioactive Waste Management Conference**, Charlotte, NC, April 9-13, 2017.

[7] **M. Atz**, X. Liu, M. Fratoni, J. Ahn. "Evaluation of minimum critical mass to inform performance requirement of partitioning and transmutation to eliminate criticality risk in a geologic repository". **Proceedings of the OECD 14th International Exchange Meeting on Partitioning and Transmutation**, San Diego, CA, October 2016. pp. 354-364. URL

Technical Reports

[8] A. Salazar, **M. Atz**, M. Fratoni. "Criticality Safety for Geological Disposal of Used Nuclear Fuel". Summary Report for the FY2016 for JAEA-UCBNE Collaboration (Area 2) UCB-NE-5157 (2017).

[9] X. Liu, A. Salazar, **M. Atz**, M. Fratoni, J. Ahn. "Preliminary Criticality Safety Assessment for Direct Disposal of Spent Nuclear Fuels". Summary Report for the FY2015 for JAEA-UCBNE Collaboration (Area 2) UCB-NE-5153 (2016).

[10] X. Liu, A. Salazar, **M. Atz**, M. Fratoni, J. Ahn. "Criticality Safety for Geological disposal of Fukushima Damaged Fuels". Summary Report for the FY2015 for JAEA-UCBNE Collaboration (Area 1) UCB-NE-5152 (2016).

[11] J. Ahn, X. Liu, **M. Atz**. "Preliminary Criticality Safety Assessment for Direct Disposal of Spent Nuclear Fuels". Summary Report for the FY2015 for JAEA-UCBNE Collaboration (Area 2) UCB-NE-5148 (2015).

Theses

[12] **M. Atz**. "Effect of initial enrichment and discharge burnup on the minimum critical mass of far-field depositions of fissile material from LWR spent fuel". Master's Report (Plan II) UCB-NE-5155 (2016)

[13] **M. Atz**, M. Li, G. Belfort, M.P. Nieh. "Mechanism of insulin aggregation: Applied to Alzheimers disease". University of Connecticut Honors Scholar Thesis, Paper 378, Chemical Engineering (2014). URL

Posters

[14] K. Shield, **M. Atz**. "Nuclear Energy and Environmental Justice: As Bad as we Think?" **National Science Policy Symposium**, New York, New York, November 2018.

[15] **M. Atz**, M.P. Nieh, M. Li. "Understanding the early stage of insulin aggregation; applied to Alzheimers disease". **American Institute of Chemical Engineers Regional Student Conference** (2014).

[16] **M. Atz**, M.P. Nieh, M. Li. "Insulin as a Model System for Beta-Amyloid Protein Aggregation Reversibility". **American Institute of Chemical Engineers National Student Conference** (2013).

[17] **M. Atz**, M. Plummer, I. Bonner, W. Smith. "Mathematical Simulation of Biodegradation in Corn Stover". Idaho National Laboratory Intern Poster Competition (2013).

Other Writing

[18] **M. Atz**. "Understanding the Nuances of Nuclear Waste". Medium, Berkeley Nuclear Engineering (2017). URL

[19] **M. Atz**. "Pioneering the future of nuclear energy innovation". Berkeley Energy & Resources Collaborative (2016). URL

Teaching Experience

University of California, Berkeley
Dept. of Nuclear Engineering
Teaching Assistant, *NE124, Radioactive Waste Management* **Spring 2016**
Teaching Assistant, *NE290E, Environmental Aspects of Nuclear Engineering* **Fall 2015**

University of California, Berkeley, Dept. of Nuclear Engineering **Apr 24 & 26, 2018**
NE100, Introduction to Nuclear Engineering
Nuclear fuel cycle mass balances, radiation dose conversions

University of California, Berkeley, Dept. of Nuclear Engineering **Apr 14, 2017**
NE124, Radioactive Waste Management
Criticality Safety Studies at UC Berkeley

Volunteering and Service

Workshop Leader, Earth Action Initiative **Spring 2018**
UC Berkeley Nuclear Engineering Colloquia Review Committee **Fall 2017 - Spring 2018**
Nuclear Innovation Bootcamp Planning Committee **Spring 2017 - present**
Summer Session Volunteer, The Painted Turtle **Summer 2017, 2018**
Executive Committee, Nuclear Environmental Outreach Group **Fall 2016 - Fall 2017**
Vice President, UConn Engineering Ambassadors **Fall 2013 - Spring 2014**
Member, UConn Engineering Ambassadors **Fall 2012 Spring 2014**
UConn Engineering Dean Search Committee **Fall 2013**
Representative, UConn Chemical Engineering ABET Review **Fall 2013**
Student Interviewer, UConn Chemical Engineering Faculty Search **Spring 2013**
Submitted testimony in support of CT Senate Bill no. 840 **Spring 2013**