

Miloš Ivo Atz

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PH.D.	University of California, Berkeley, NUCLEAR ENGINEERING Thesis (working title): <i>Methodologies for the evaluation of nuclear waste management strategies and applications to advanced fuel cycles</i> Advisor: Professor Massimiliano Fratoni GPA: 3.80	Aug 2014 – May 2019
M.S.	University of California, Berkeley, NUCLEAR ENGINEERING Thesis: <i>Effect of initial enrichment and discharge burnup on the minimum critical mass of far-field depositions of fissile material from LWR spent fuel</i> Advisor: Professor Joonhong Ahn	Aug 2014 – May 2016
B.S.	University of Connecticut, CHEMICAL ENGINEERING Thesis: <i>Mechanism of insulin aggregation: Applied to Alzheimers disease</i> Advisor: Professor Mu-Ping Nieh GPA: 3.79; <i>magna cum laude</i>	Aug 2010 – May 2014
RESEARCH EXPERIENCE	University of California, Berkeley, Berkeley, CA <i>Graduate Research Assistant, Nuclear Waste Management Group</i> 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 <i>Undergraduate Research Assistant</i> 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 <i>SULI Research Intern, Energy Resource Recovery and Sustainability Department</i> 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 <i>Cell Stack Research Intern</i> 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.	Aug 2014 – present Sep 2012 – May 2014 Jun – Aug 2013 Jun – Aug 2012
HONORS AND AWARDS	Roy G. Post Nuclear Waste Management Graduate Scholarship National Science Foundation Graduate Research Fellowship First place, Nuclear Innovation Bootcamp UC Berkeley Nuclear Engineering Thomas Pigford Award Nuclear Regulatory Commission Graduate Fellowship United Technologies Corporation Engineering Scholarship Honorable Mention (x2), Idaho National Laboratory Intern Poster Competition	Spring 2019 2015 – present Summer 2016 Spring 2016 Spring 2015 2013 – 2014 Summer 2013

- 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. “Impact of interim storage on repository design options”. Paper 27261. **International High-Level Radioactive Waste Management Conference (IHLRWM 2019)**, Knoxville, TN, April 2019.
- [4] **M. Atz**, M. Fratoni. “A Python Package for Fuel Cycle and Waste Management Analysis”. Paper 19545. **Proceedings of the Waste Management Symposium**, Phoenix, AZ, March 2019.
- [5] **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.
- [6] 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.
- [7] **M. Atz**, X. Liu, M. Fratoni, J. Ahn. “Material composition effects on far-field deposition minimum critical mass”. **International High-Level Radioactive Waste Management Conference (IHLRWM 2017)**, Charlotte, NC, April 9-13, 2017.
- [8] **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 [9] 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).
- [10] 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).
- [11] 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).
- [12] 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 [13] **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)
- [14] **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 [15] K. Shield, **M. Atz**. “Nuclear Energy and Environmental Justice: As Bad as we Think?” **National Science Policy Symposium**, New York, New York, November 2018.
- [16] **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).
- [17] **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).

	[18] M. Atz , M. Plummer, I. Bonner, W. Smith. “Mathematical Simulation of Biodegradation in Corn Stover”. Idaho National Laboratory Intern Poster Competition (2013).	
OTHER WRITING	[19] M. Atz . “Understanding the Nuances of Nuclear Waste”. Medium, Berkeley Nuclear Engineering (2017). URL	
	[20] M. Atz . “Pioneering the future of nuclear energy innovation”. Berkeley Energy & Resources Collaborative (2016). URL	
INVITED TALKS	NSSC University Program Review , Raleigh, NC, <i>NSSC Affiliate</i> NSSC MSIM Schubert Review , Berkeley, CA, <i>NSSC Affiliate</i> ,	June 4-6, 2019 April 23, 2019
TEACHING EXPERIENCE	University of California, Berkeley DEPT. OF NUCLEAR ENGINEERING Course instructor, <i>NE290E, Environmental Aspects of Nuclear Energy</i> Teaching Assistant, <i>NE124, Radioactive Waste Management</i> Teaching Assistant, <i>NE290E, Environmental Aspects of Nuclear Engineering</i>	Spring 2019 Spring 2016 Fall 2015
	University of California, Berkeley , DEPT. OF NUCLEAR ENGINEERING <i>NE100, Introduction to Nuclear Engineering</i> Nuclear fuel cycle mass balances, radiation dose conversions	Apr 24 & 26, 2018
	University of California, Berkeley , DEPT. OF NUCLEAR ENGINEERING <i>NE124, Radioactive Waste Management</i> Criticality Safety Studies at UC Berkeley	Apr 14, 2017
VOLUNTEERING AND SERVICE	Workshop Leader, Earth Action Initiative UC Berkeley Nuclear Engineering Colloquia Review Committee Nuclear Innovation Bootcamp Planning Committee Summer Session Volunteer, The Painted Turtle Executive Committee, Nuclear Environmental Outreach Group Vice President, UConn Engineering Ambassadors Member, UConn Engineering Ambassadors UConn Engineering Dean Search Committee Representative, UConn Chemical Engineering ABET Review Student Interviewer, UConn Chemical Engineering Faculty Search Submitted testimony in support of CT Senate Bill no. 840	Spring 2018, Spring 2019 Fall 2017 - Spring 2018 Spring 2017 - Summer 2018 Summer 2017, 2018 Fall 2016 - Fall 2017 Fall 2013 - Spring 2014 Fall 2012 - Spring 2014 Fall 2013 Fall 2013 Spring 2013 Spring 2013