

Miloš Ivo Atz

CONTACT INFORMATION	Nuclear Engineer Argonne National Laboratory 9700 South Cass Avenue, Building 208, Room A106 Lemont, IL 60439 USA	mobile: (860) 918-6759 e-mail: matz [at] anl [dot] gov website: https://milosatz.github.io
PH.D.	University of California, Berkeley , NUCLEAR ENGINEERING Dissertation: <i>Methodologies for the evaluation of nuclear waste management strategies and applications to advanced fuel cycles</i> Advisor: Professor Massimiliano Fratoni	Aug 2014 – Sep 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	Aug 2010 – May 2014
RESEARCH EXPERIENCE	Argonne National Laboratory , Lemont, IL <i>Nuclear Engineer, Nuclear Science and Engineering Division</i> Continued development of DASSH subchannel TH software to calculate core-wide temperatures and inform orificing strategies in support of the Versatile Test Reactor core design. Engage in research and development activities related to advanced reactor core design & analysis and fuel cycle & waste management planning.	Sep 2020 – present
	Argonne National Laboratory , Lemont, IL <i>Postdoctoral Appointee, Nuclear Science and Engineering Division</i> Development of DASSH subchannel TH software in support of the Versatile Test Reactor core design.	Sep 2019 – Aug 2020
	University of California, Berkeley , Berkeley, CA <i>Graduate Research Assistant, Nuclear Waste Management Group</i> Implemented 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.	Aug 2014 – Sep 2019
	University of Connecticut , Storrs, CT <i>Undergraduate Research Assistant, Self-Assembled Functional Nanomaterials Lab</i> Studied reversibility of insulin dimerization as model for potential reversal of Alzheimer's disease.	Sep 2012 – May 2014
	Idaho National Laboratory , Idaho Falls, ID <i>SULI Research Intern, Energy Resource Recovery and Sustainability Department</i> Developed thermal models for biofuel feedstock degradation and cold crucible induction melters.	Jun – Aug 2013
	UTC Power , South Windsor, CT <i>Cell Stack Research Intern</i> Studied subscale fuel cells to assess feasibility of replacing purge gas with cheaper alternative. Performed thermal conductivity tests on fuel cell components to correct model correlations.	Jun – Aug 2012
HONORS AND AWARDS	Impact Argonne Award (shared) for contributions to VTR CD-1 milestone First place, MeV School final team project presentation UC Berkeley Nuclear Engineering Joonhong Ahn Award Roy G. Post Nuclear Waste Management Graduate Scholarship	November 2020 Summer 2020 Spring 2019 Spring 2019

National Science Foundation Graduate Research Fellowship	2015 – 2019
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

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| JOURNAL
PUBLICATIONS | <p>[1] A. Kasam-Griffith, M. Atz, T. Fei, Z. Zhong, M. Jarrett, F. Heidet. “VTR Core Design for Flexible Operations”. Nuclear Science and Engineering. Submitted.</p> <p>[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.</p> |
| CONFERENCE
PROCEEDINGS | <p>[3] M. Atz, M. A. Smith, F. Heidet. “DASSH: Software for ducted assembly thermal hydraulics calculations”. Transactions of the American Nuclear Society 123 pp. 1673-1676, November 2020.</p> <p>[4] 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.</p> <p>[5] 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. URL.</p> <p>[6] 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.</p> <p>[7] 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.</p> <p>[8] 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. URL.</p> <p>[9] 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.</p> |
| TECHNICAL
REPORTS | <p>[10] M. Atz, M. A. Smith, F. Heidet. “Ducted Assembly Steady-State Heat Transfer Software (DASSH) - User Guide”. ANL/NSE-21/34 (2021). URL.</p> <p>[11] M. Atz, M. A. Smith, F. Heidet. “Ducted Assembly Steady-State Heat Transfer Software (DASSH) - Theory Manual”. ANL/NSE-21/33 (2021). URL.</p> <p>[12] M. Atz, B. Feng. “Generic Activities and Milestones for Deploying Advanced Reactor Spent Fuel Management Facilities”. ANL/NSE-21/28 (2021).</p> <p>[13] A. G. Nelson, A. A. Kasam-Griffith, M. I. Atz, F. Heidet. “Performance of HALEU and HEU-Fueled Nuclear Thermal Propulsion Reactors”. ANL/NSE-20/55 (2020).</p> <p>[14] A. Kasam-Griffith, M. Jarrett, M. Atz, G. Aliberti. “Comparative analysis of the reference VTR conceptual core design”. ECAR-5119 (2020).</p> <p>[15] A. G. Nelson, M. A. Smith, M. I. Atz, F. Heidet. “Argonne Reactor Computation Code Verification – Phase 1 Achievements”. ANL-VTR-58 (2020).</p> <p>[16] 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).</p> |

	[17] 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).	
	[18] 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).	
	[19] 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	[20] M. Atz . “Methodologies for the evaluation of nuclear waste management strategies and applications to advanced fuel cycles”. PhD Dissertation, UC Berkeley (2019). URL .	
	[21] 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).	
	[22] 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	[23] K. Shield, M. Atz . “Nuclear Energy and Environmental Justice: As Bad as we Think?” National Science Policy Symposium , New York, NY, November 2018.	
	[24] 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 , Storrs, CT (2014).	
	[25] 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 , San Francisco, CA (2013).	
	[26] M. Atz , M. Plummer, I. Bonner, W. Smith. “Mathematical Simulation of Biodegradation in Corn Stover”. Idaho National Laboratory Intern Poster Competition (2013).	
OTHER WRITING	[27] F. Heidet, M. Atz . “Why Crypto Mining Needs Nuclear Power”. CoinDesk (2021). URL .	
	[28] M. Atz . “Understanding the Nuances of Nuclear Waste”. Medium, Berkeley Nuclear Engineering (2017). URL .	
	[29] M. Atz . “Pioneering the future of nuclear energy innovation”. Berkeley Energy & Resources Collaborative (2016). URL .	
INVITED TALKS	Santa Clara University Physics Department, <i>Seminar</i> NNSA University Program Review , Raleigh, NC, <i>NSSC Affiliate</i> NSSC MSIM Schubert Review , Berkeley, CA, <i>NSSC Affiliate</i>	Jun 1, 2020 Jun 4-6, 2019 Apr 23, 2019
TEACHING EXPERIENCE	University of California, Berkeley , DEPT. OF NUCLEAR ENGINEERING Course organizer, <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
	Guest lectures <i>NE124, Radioactive Waste Management</i> <ul style="list-style-type: none">• Repository thermal management• Criticality safety studies at UC Berkeley <i>NE100, Introduction to Nuclear Engineering</i> <ul style="list-style-type: none">• Nuclear fuel cycle mass balances, radiation dose conversions	Apr 30, 2019 Apr 14, 2017 Apr 24 & 26, 2018

VOLUNTEERING
AND SERVICE

Reviewer, Nuclear Engineering and Technology	Nov 2020 – present
Member, EGS DEI Council	Summer 2021
Member, MeV School Scientific Secretariat	Jan 2020 – Dec 2020
Vice President, Postdoctoral Society of Argonne	Spring 2018, Spring 2019
Workshop Leader, Earth Action Initiative	Fall 2017 - Spring 2018
UC Berkeley Nuclear Engineering Colloquia Review Committee	Spring 2017 - Summer 2018
Nuclear Innovation Bootcamp Planning Committee	Summer 2017, 2018
Summer Session Volunteer, The Painted Turtle	Fall 2016 - Fall 2017
Executive Committee, Nuclear Environmental Outreach Group	Fall 2013 - Spring 2014
Vice President, UConn Engineering Ambassadors	Fall 2012 - Spring 2014
Member, UConn Engineering Ambassadors	Fall 2013
UConn Engineering Dean Search Committee	Fall 2013
Representative, UConn Chemical Engineering ABET Review	Spring 2013
Student Interviewer, UConn Chemical Engineering Faculty Search	Spring 2013
Submitted testimony in support of CT Senate Bill no. 840	