

JESSICA HALLIGAN

3275 Pomace Ct
Pleasanton, CA 94566

925-858-8357
halligan.jessica.leigh@gmail.com

EDUCATION	M.S., Nuclear Engineering, Purdue University, 3.7 GPA	2013
	B.S., Chemical Engineering and Nuclear Engineering, UC Berkeley, 3.4 GPA	2008
WORK	TEACHER AND TUTOR • Pleasanton Unified School District, Pleasanton, CA Conducted classes and tutoring in mathematics for middle and high school students	2015–
	GRADUATE RESEARCH ASSISTANT • Purdue University, West Lafayette, IN Advised SPARC group for development of risk-informed nuclear power plant construction	2012–2013
	GRADUATE RESEARCH ASSISTANT • Purdue University, West Lafayette, IN Developed parts of novel antineutrino detector for reactor monitoring in AISL group Modeled neutron time projection chamber with MCNP Polimi and Mathematica	2009–2012
	VISITING RESEARCHER • Lawrence Livermore National Laboratory, Livermore CA Developed neutron time projector simulation code with MCNPX for Advanced Detectors Group	2009
	RESEARCH ASSISTANT • Argonne National Laboratory, Lemont, IL Used Penning Trap mass spectrometer to determine Q-value measurements of tellurium isotopes	2008
	RESEARCH ASSISTANT • Gran Sasso National Laboratory, Assergi, Italy Performed chemical etching of crystal bolometers and constructed prototype radon shield for CUORE	2008
	TUTORING SUPERVISOR • UC Berkeley Academic Services, Berkeley, CA	2007–2008
	CHEMISTRY TUTOR • UC Berkeley Academic Services, Berkeley, CA	2006–2008
	RESEARCH ASSISTANT • Lawrence Berkeley National Laboratory, Berkeley, CA Collected and analyzed HPGe/BGO radiation detector data for gamma ray multiplicity measurement	2006–2007
	NUCLEAR SCIENCES INTERN • Lawrence Livermore National Laboratory, Livermore, CA Designed and optimized neutron collimator source and geometry with MCNPX	2007
	NUCLEAR SCIENCES INTERN • Lawrence Livermore National Laboratory, Livermore, CA Analyzed pathogenic spores with SEM and energy dispersive x-ray spectrometer	2006
TOOLS	Languages/Packages: C, MATLAB, Octave, Python, Mathematica, MCNPX, MCNP Polimi Documentation/Development: Microsoft Office, L ^A T _E X, Emacs	
HONORS	Purdue Doctoral Fellowship	2009
	California Governor's Scholar	2004
RESEARCH	- with N.S. Bowden, M. Foxe, M. Heffner, I. Jovanovic, P. O'Malley, D. Carter, and G. Carosi. Directional fast neutron detection using a time projection chamber. Nuclear Instruments and Methods in Physics Research, vol. 624, issue 1, p. 153-161, Dec 2010.	
	- with D.L. Bleuel, L.A. Bernstein, J.T. Burke, Gibelin, M.D. Heffner, E. B. Norman, L. Phair, N.D. Scielzo, S.A. Sheets, N.J. Snyderman, and M. Wiedeking. Gamma-ray multiplicity measurement of ²⁵² Cf in a highly-segmented HPGe/BGO detector array. Nuclear Instruments and Methods in Physics Research, vol. 624, issue 3, p. 691-698, Dec 2010.	
	- with N.D. Scielzo, S. Caldwell, G. Savard, J.A. Clark, C.M. Deibel, J. Fallis, S. Gulick, D. Lascar, A.F. Levand, G. Li, E.B. Norman, R.E. Segel, K.S. Sharma, M. Sternberg, T. Sun, and J. Van Schelt. Double-beta decay Q-values of ¹³⁰ Te, ¹²⁸ Te, and ¹²⁰ Te. Physical Review C, vol. 80, issue 2, p. 5, Aug 2009.	
	- Simulation of a Neutron Time Projection Chamber Detector. 3rd Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Volume 54, Number 10, October 2009 in Waikoloa, HI (presentation).	
	- Double-beta decay Q-values of ¹³⁰ Te, ¹²⁸ Te, and ¹²⁰ Te. Conference Experience for Undergraduates (CEU), Department of Nuclear Physics Conference, August 2008 in Oakland, CA (presentation).	