

JESSICA HALLIGAN

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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	2015–
	Conducted classes and tutoring in mathematics for middle and high school students	
	GRADUATE RESEARCH ASSISTANT • Purdue University, West Lafayette, IN	2012–2013
	Advised SPARC group for development of risk-informed nuclear power plant construction	
	GRADUATE RESEARCH ASSISTANT • Purdue University, West Lafayette, IN	2009–2012
	Developed parts of novel antineutrino detector for reactor monitoring in AISL group	
	Modeled neutron time projection chamber with MCNP Polimi and Mathematica	
	VISITING RESEARCHER • Lawrence Livermore National Laboratory, Livermore CA	2009
	Developed neutron time projector simulation code with MCNPX for Advanced Detectors Group	
	RESEARCH ASSISTANT • Argonne National Laboratory, Lemont, IL	2008
	Used Penning Trap mass spectrometer to determine Q-value measurements of tellurium isotopes	
	RESEARCH ASSISTANT • Gran Sasso National Laboratory, Assergi, Italy	2008
	Performed chemical etching of crystal bolometers and constructed prototype radon shield for CUORE	
	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	2006–2007
	Collected and analyzed HPGe/BGO radiation detector data for gamma ray multiplicity measurement	
	NUCLEAR SCIENCES INTERN • Lawrence Livermore National Laboratory, Livermore, CA	2007
	Designed and optimized neutron collimator source and geometry with MCNPX	
	NUCLEAR SCIENCES INTERN • Lawrence Livermore National Laboratory, Livermore, CA	2006
	Analyzed pathogenic spores with SEM and energy dispersive x-ray spectrometer	
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).	