

Daniel Salvat



Graduate Institution: Indiana University

Location: Bloomington, IN

Graduate Discipline: Experimental Nuclear Physics

Hometown: Las Cruces, NM

Research Interests:

My current research interests lie in neutron physics. My current projects include investigating sources of Ultra-Cold Neutrons (UCN), cold and ultra-cold neutron transport simulations, and a measurement of the free neutron lifetime using a permanent magnetic trap.

Additional interests include molecular dynamics simulations of potential neutron moderators, using neutrons to probe symmetry violation and fifth forces, and the development of a general simulation framework for neutron scattering in the cold and thermal regimes.

About me:

I completed my first year of graduate school this past year at Indiana. As of the summer, I am working at Los Alamos Neutron Science Center performing an experiment to investigate confined oxygen as a source of Ultra-Cold Neutrons (UCN), and continue prototyping for an experiment to measure the free neutron lifetime using a magnetic trap. In the fall, in addition to coursework, I will perform an inelastic neutron scattering experiment in solid nitrogen at the Institut Laue-Langevin.

My goal is to continue an active role in research as a career. I plan to develop a broad scope of experimental knowledge in cryogenics, detector fabrication, scattering techniques, and simulation development in order to devise novel experimental techniques for precision measurements.

Further, given my latent interest in teaching, I intend to perform research in an academic environment. This past year I was a member of the IU physics outreach committee, during which time I participated in demonstrations and tours for local public school students. In addition to research, I enjoy playing guitar, film, cooking, singing badly, and drinking copious amounts of coffee.



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