

Resumé for Jenny Ruth Smith

EDUCATION

Masters of Science in Nuclear Engineering

University of Michigan, Ann Arbor, MI

Expected Graduation May 2019

Bachelor of Science in Nuclear Engineering [3.69]

Magna Cum Laude

University of New Mexico, Albuquerque, NM

2017

PROFESSIONAL EXPERIENCE

Graduate Student Summer Intern

Jet Propulsion Laboratories

- Performed data analysis on data from the Ion Propulsion System of the Dawn Mission spacecraft

2018

Year-Round R&D Undergraduate Intern

Sandia National Laboratories, Albuquerque, NM

- Set up and calibrate radiation detection systems, including portal monitors and experimental polyvinyltoluene (PVT) systems.
- Set up and conduct experiments to characterize the instrument response function of dual neutron time-of-flight (nTOF) detectors.
- Act as a radiological worker source handler for ongoing tests.
- Build Monte Carlo Nth Particle (MCNP) models, collect and analyze data to be compared with models.
- Support R&D engineers working under the Department of Energy Nuclear Engineering (DOE-NE) Program, the National Nuclear Security Administration's (NNSA) Second Line of Defense (SLD) program, the Department of Homeland Security Science and Technology (DHS-ST) Programs, the Domestic Nuclear Detection Office Program (DNDO), and the Neutron and Particle Diagnostics group.
- Complete open-source research as project background data for engineers and project leaders.

2014

Student Education Leader for CNM STEM-UP Grant

Central New Mexico Community College, Albuquerque, NM

- Reached out to students, informing them about Science Technology Engineering Mathematics Undergraduate Pathways (STEM UP) grant and benefits of utilizing grant services.
- Met with 10-15 assigned mentees and discussed classes and progress towards academic goals.
- Attended regular trainings, informational sessions, and held open study sessions to improve success in classes.

2013

RESEARCH EXPERIENCE

Laser Diagnostic for Plasma in Air

University of Michigan, Funded by Naval Research Laboratories

Advisor Dr. John Foster

2018

Impulse Response Characterization Using Cosmic Rays and Germanium Sources

Sandia National Laboratories

Measurement the impulse response function of a dual paddle neutron-time-of-flight detector using a cosmic ray coincidence technique and compare results with same method using Ge sources.

2017

Senior Year Honors Thesis: MCNP6 Parameter Determination for Z-Pinch Facility

University of New Mexico/Sandia National Laboratories

Comparing experimental data taken in a lead probe calibration laboratory with multiple MCNP6 models to determine the best representation for accurate calibration factor at the Z-Pinch Facility at Sandia National Laboratories.

Isothermal Flow Experiments Data Analysis

Texas A&M University

Performed pressure measurement signal analysis for model-validation experiments for wire-wrapped fuel assembly as a part of the Undergraduate Student Research Grant at Texas A&M University.

2016

- **Advanced Trade Model** **2015**
Sandia National Laboratories
 This model uses trade routes, terrorism data, census data, geo-spatial data, commerce data, and other sources to provide insight into nuclear threat and proliferation concern aspects of the global supply chain.
- **Radiation Portal Monitor Tech Refresh Evaluation** **2015**
Sandia National Laboratories
 Conducted data analysis for project evaluating different vendors' radiation portal monitors and effectiveness of a technology refresh using GADRAS, PeakEasy, Cambio and Excel. Presented at the SNL Student Intern Symposium, SAND No. SAND2015-5772 D.
- **Waste Incineration** **2015**
Sandia National Laboratories
 Conducted open source research, regarding waste incineration considering the thermodynamic properties of standard municipal waste incineration and its direct application to a Supercritical Carbon Dioxide Brayton Cycle.
- **CSIS Presentation** **2014**
Sandia National Laboratories
 Completed open-source research for a presentation given for the US-UK Bilateral Project on Nuclear Issues Conference, Center for Strategic and International Studies. This presentation evaluated nuclear terrorism as an evolving threat that could be considered as a system within greater systems.

APPLICABLE SKILLS

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ MATLAB ▪ GADRAS ▪ PeakEasy ▪ Cambio ▪ All Microsoft Office software | <ul style="list-style-type: none"> ▪ MCNP6 ▪ VisED ▪ C++ ▪ Latex ▪ MELCORE |
|---|---|

SCHOLARSHIPS AND AWARDS

- National Defense Science & Engineering Fellowship (NDSEG), 2018
- Dr. Don R. Kania and Renee L. DuBois Fellowship, 2017/2018
- Bridge to Doctorate Fellowship, University of Michigan Rackham School of Engineering, 2017
- National Science Foundation Scholarship, 2015/2016 & 2016/2017
- Undergraduate Research Summer Grant, Texas A&M University, 2016
- McNair Scholar, 2016
- Leonard Engineering Scholarship, 2015/2016 & 2016/2017
- UNM Presidential Scholarship, 2008

LEADERSHIP

- Member, American Nuclear Society, 2013-2017
- President, UNM chapter of INMM, 2015/2016
- Vice President, UNM chapter of INMM, 2014/2015
- Vice President of Scholarship, Phi Theta Kappa, 2014
- Member, Society of Women Engineers, 2014-2015
- Founding member and president of CNM Physics League, 2013

PUBLICATIONS

- M.Y. Arrieta, **J. R. Smith**, "Limitations of Detection: Evolution of the Nuclear Threat", US-UK Bilateral Project on Nuclear Issues Conference, Reading, UK, SAND2014-19915 C (2014).

SERVICE

- Volunteer at Albuquerque Animal Welfare Department, 2016
- Volunteer in planning/administering of Induction Ceremony, Phi Theta Kappa, Fall 2014
- Volunteer for "Math Moves You" Event by the UNM School of Engineering, 2016
- Atoms for the Family Nuclear Science Outreach Pres. for Girl Scouts, Georgie O'Keefe School, 2016
- Judge at VEX IQ Robotics Event, 2016
- Volunteer in Big Brothers Big Sisters Bowl for Kids' Sake Program, 2014-2016