Kathryn A. **Mummah**

Undergraduate Student
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Education

University of Illinois — *Urbana, IL*

B.S. Nuclear, Plasma, and Radiological Engineering — *May 2017*

- Concentration, Power, Safety, and the Environment
- Minor in Atmospheric Sciences

Research

Advanced Reactors and Fuel Cycle Research Group

Undergraduate Research Assistant — *Aug. 2016 - PRESENT*

- Developed introductory experience in running the CYCLUS fuel cycle code
- Conducted literature review on previous fuel cycle transition studies

Analysis of Reactor Transients and Stability Research Group

Undergraduate Research Assistant — *Jan. 2016 - Dec. 2016*

- Developed BISON cases benchmarking pellet cladding mechanical interactions, building on summer work at Idaho National Lab

Experimental Thermal Hydraulics Research Group

Undergraduate Research Assistant — *Aug. 2015 - Dec. 2015*

- Developed a Computer-Aided-Design (CAD) 3D model of a section of lab space with over 30 pipes and supports for use in developing laboratory experiments

Experience

Idaho National Laboratory — *Idaho Falls, ID*

Fuels Modeling & Simulation Intern — *May. 2016 - Aug. 2016*

- Benchmarked the BISON fuel performance code with experimental data from the Halden Research Reactor, focusing on pellet clad mechanical interactions (PCMI)
- Organized the collection of donations at 16 different buildings/complexes on the INL site. Ultimately collected $1500, 100 handwritten cards, and 150 lbs of donations to be sent to active servicemembers, veterans, and first responders through Operation Gratitude.

University of Illinois — *Urbana, IL*

Teaching Assistant

- Lead Engineering Learning Assistant for ENG 100, TA for NPRE 100, 101
- Lead Engineering Learning Assistant (ELA) for ENG 100 for Nuclear, Plasma, and Radiological Engineering Department. Fall 2015 & ’16
- Teaching Assistant for NPRE 100: Introduction to Nuclear, Plasma, and Radiological Engineering. Fall 2014, ’15, & ’16
- Teaching Assistant for NPRE 101: Introduction to Energy Sources. Spring 2014 & ’15
- Grader for ASTR 100: Introduction to Astronomy. Fall 2014

Oyster Creek Generating Station — *Forked River, NJ*

Reactor Engineering Intern — *Jun. 2015 - Aug. 2015*

- Aligned 700 employees on Reactivity Management (RM) responsibility. For example, the weekly plant newsletter includes a ”Reactivity Management System of the Week” that focuses on how that particular system could effect reactivity, or power changes in the core.
- Verified Special Nuclear Material Inventory and bundle orientations for spent fuel
- Lead a raffle fundraiser that raised $600 to place retired Military Working Dogs in loving homes, often with retired servicemembers.

Exelon Generation Cantera Regional Headquarters — *Warrenville, IL*

Spent Fuel & Decommissioning Intern — *Jun. 2014 - Aug. 2014*

- Accumulated and analyzed data on fuel cycle burnups and fuel assembly failures.
- Created and reviewed documents to track all Special Nuclear Material

Leadership

Engineering Ambassadors

Recruitment & Publicity Chair — *Apr. 2016 - Dec. 2016*

Ambassador — *Nov. 2015 - May 2017*

American Nuclear Society

Local Sections Committee, Student Sections Committee — *Jun. 2016 - PRESENT*

American Nuclear Society Student Section

Member — *Aug. 2013 - May 2017*

President — *Apr. 2015 - Apr. 2016*

Internal Vice President — *Apr. 2014 - Apr. 2015*

Freshman President — *Oct. 2013 - Apr. 2014*

Women in Nuclear Student Section

Founder — *Aug. 2015*

Member — *Aug. 2015 - May 2017*

Phi Mu - Delta Beta Chapter

Academic Excellence Chairman — *Dec. 2016 - May 2017*

Engineering Council

Undergraduate Advisory Board Representative — *Apr. 2014 - Dec. 2016*

Student Introduction to Engineering (SITE) Reservations Chair — *May 2015 - May 2016*

Student Chapter of the American Meteorological Society

Secretary — *Apr. 2015 - Apr. 2016*

Honors & Awards

Scholarships

2017-2018 **ANS Fuel Cycle and Waste Management Division Randall Scholar**,

2016-2017 **Roy G. Post Foundation Scholarship**,

2016-2017 **Dale W. and Wanda L. Weaver Engineering Scholarship**,

2016-2017 **Crowe Horwath Scholarship**,

2016-2017 **Edith and Harry Darby Leadership Scholarship**,

2015-2017 **DOE Nuclear Energy University Program (IUP) Scholarship Award**,

2015-2017 **Nuclear Regulatory Commission Scholarship**,

2015-2017 **American Nuclear Society Decontamination & Environmental Sciences Division Scholarship**,

2015-2017 **Catherine Pritchard Undergraduate Scholarship**,

2015-2016 **Exelon Energy for Education Scholarship Award**,

2014-2016 **National Academy for Nuclear Training Scholarship**,

2013-2017 **Mike Harper Leadership Scholarship**,

Awards

2017 **Knights of St. Patrick**,

2016 **Alpha Nu Sigma**,

2016 **William R. Schowalter Award**,

2016 **American Nuclear Society Commendation for Service and Leadership**,

2014 **American Nuclear Society Most Committed Member**,

2013 **University of Illinois James Scholar**,

Presentations

NuWWIS: An Interim Storage Solution for Spent Fuel — *Pittsburgh, PA*

2017 American Nuclear Society Student Conference — *Apr. 2017*

K. Mummah, J. Bae, D. OGrady, A. Lopez

Investigating the Effects of Fuel Pellet Geometry on Pellet Cladding Mechanical Interaction (PCMI) using BISON — *Las Vegas, NV*

2016 American Nuclear Society Winter Meeting - Student Poster Session — *Nov. 2016*

K. Mummah, R. Williamson

Public Image in Spent Fuel Disposal: Lessons Learned from Sweden's SKB — *Madison, WI*

2016 American Nuclear Society Student Conference — *Apr. 2016*

K. Mummah, C. Kuprianczyk

- Winner of "Public Image" technical track

Reactivity Management: More Than Just Reactor Engineers — *Washington, DC*

2015 American Nuclear Society Winter Meeting - Student Poster Session — *Nov. 2016*

K. Mummah

Professional Organizations

2014 - 2017 **Student Member**, American Nuclear Society
2016 - 2017 **Student Member**, American Society of Mechanical Engineers
2015 - 2017 **Student Member**, Society of Women Engineers
2015 - 2016 **Student Member**, American Meteorological Society