

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 - PRESENT

American Nuclear Society

LOCAL SECTIONS COMMITTEE, STUDENT SECTIONS COMMITTEE

Jun. 2016 - PRESENT

American Nuclear Society Student Section

MEMBER

Aug. 2013 - PRESENT

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 - PRESENT

Phi Mu - Delta Beta Chapter

ACADEMIC EXCELLENCE CHAIRMAN

Dec. 2016 - May 2017

Engineering Council

UNDERGRADUATE ADVISORY BOARD REPRESENTATIVE

Apr. 2014 - PRESENT

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