

Kathryn A. Mummah

PHD STUDENT IN NUCLEAR ENGINEERING & ENGINEERING PHYSICS

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Education

University of Wisconsin-Madison

Madison, WI

GRADUATE RESEARCH ASSISTANT, NUCLEAR ENGINEERING & ENGINEERING PHYSICS

Aug. 2017-PRESENT

M.S. NUCLEAR ENGINEERING AND ENGINEERING PHYSICS

May 2020

- Advisor: Professor Paul Wilson
- Fellow, NNSA Nuclear Nonproliferation and International Safeguards (NNIS) Graduate Fellowship Program
- Graduate Associate, Consortium for Monitoring, Technology, and Verification (MTV)
- PhD Minor in Science Communication

University of Illinois at Urbana-Champaign

Urbana, IL

B.S. NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING, GRADUATED WITH HONORS

May 2017

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

Research

Computational Nuclear Engineering Research Group (CNERG), UW-Madison

Madison, WI

GRADUATE RESEARCH ASSISTANT

Sept. 2017 - PRESENT

Los Alamos National Laboratory

Los Alamos, NM

GRAD RESEARCH ASSISTANT, NEN-1 SAFEGUARDS SCIENCE & TECHNOLOGY

Jan. 2020 - PRESENT

GRAD RESEARCH ASSISTANT, NEN-2 ADVANCED NUCLEAR TECHNOLOGY & GLENN T. SEABORG SUMMER RESEARCH FELLOW

May 2018 - Aug. 2018

VISITING STUDENT, NEN-5 SYSTEMS DESIGN & ANALYSIS

May 2017 - Aug. 2017

Idaho National Laboratory

Idaho Falls, ID

INTERN, FUELS MODELING & SIMULATION

May 2016 - Aug. 2016

Advanced Reactors and Fuel Cycle Research Group

Urbana, IL

UNDERGRADUATE RESEARCH ASSISTANT

Aug. 2016 - May 2017

Analysis of Reactor Transients and Stability Research Group

Urbana, IL

UNDERGRADUATE RESEARCH ASSISTANT

Jan. 2016 - Dec. 2016

Experimental Thermal Hydraulics Research Group

Urbana, IL

UNDERGRADUATE RESEARCH ASSISTANT

Aug. 2015 - Dec. 2015

Fermilab

Batavia, IL

QUARKNET HIGH SCHOOL SUMMER INTERN, OPTICAL ASTRONOMY

Jun. 2012 - Aug. 2012

Work Experience

University of Wisconsin-Madison Engineering Physics Department

Madison, WI

GRADER

- NE405: Nuclear Reactor Theory, Spring 2018

University of Illinois

Urbana, IL

TEACHING ASSISTANT

- Lead Engineering Learning Assistant, ENG 100 for the Nuclear, Plasma, and Radiological Engineering. Fall 2015 & '16
- NPPE 100: Introduction to Nuclear, Plasma, and Radiological Engineering. Fall 2014, '15, & '16
- NPPE 101: Introduction to Energy Sources. Spring 2014 & '15

GRADER

- Grader, ASTR 100: Introduction to Astronomy. Fall 2014

Oyster Creek Generating Station

Forked River, NJ

INTERN, REACTOR ENGINEERING

Jun. 2015 - Aug. 2015

Exelon Generation Cantera Regional Headquarters

INTERN, SPENT FUEL & DECOMMISSIONING

[Warrenville, IL](#)

Jun. 2014 - Aug. 2014

Sports Performance Volleyball

YOUTH VOLLEYBALL COACH

[Aurora, IL](#)

Mar. 2013 - Aug. 2013

Papers and Presentations

PEER REVIEWED OR OPEN CONFERENCES

Integrating Acquisition Pathway Analysis Into The Cyclus Fuel Cycle Simulator

[Virtual](#)

2020 INSTITUTE OF NUCLEAR MATERIALS MANAGEMENT ANNUAL MEETING

July 2020

K. Mummah, P. P.H. Wilson

- 1st place, INMM J.D. Williams Student Paper Award

Acquisition Pathway Analysis using Fuel Cycle Simulators

[Palm Desert, CA](#)

2019 INSTITUTE OF NUCLEAR MATERIALS MANAGEMENT ANNUAL MEETING

July 2019

K. Mummah, R. Bahran, K. Miller, P. P.H. Wilson

Material diversion analysis within a fuel cycle simulator

[Champaign, IL](#)

2019 TECHNICAL WORKSHOP ON FUEL CYCLE SIMULATION

June 2019

K. Mummah, P. P.H. Wilson

Assessing Material Inventory Uncertainties in Integrated Fuel Cycle Simulations

[Wilmington, NC](#)

ADVANCES IN NUCLEAR NONPROLIFERATION TECHNOLOGY AND POLICY CONFERENCE 2018

September 2018

B. Mouginot, K. Mummah, P.P.H. Wilson

Modeling Potential JCPOA Diversion Scenarios with Cyclus

[Philadelphia, PA](#)

2018 AMERICAN NUCLEAR SOCIETY ANNUAL MEETING

June 2018

B. Mouginot, K. Mummah, P. P.H. Wilson

Off-normal operation in gas centrifuge enrichment cascades

[Gainesville, FL](#)

2018 AMERICAN NUCLEAR SOCIETY STUDENT CONFERENCE - POSTER SESSION

Apr. 2018

K. Mummah, B. Mouginot, P. P.H. Wilson

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

- 1st place, "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

SPONSOR CONFERENCES

Consortium for Monitoring, Technology, & Verification (MTV) Virtual Research Symposium

[Virtual](#)

June 2020

2020 MTV Workshop

[Ann Arbor, MI](#)

POSTER

Mar. 2020

MTV Fuel Cycle Facility Modeling Workshop

Madison, WI

Oct. 2019

2019 NNSA University Program Review

Raleigh, NC

June 2019

2018 Consortium for Verification Technology (CVT) Workshop

POSTER

Ann Arbor, MI

Oct 2018

2018 NNSA University Program Review

Ann Arbor, MI

June 2018

2017 CVT Workshop

POSTER

Ann Arbor, MI

Oct. 2017

Service

PROFESSIONAL SERVICE

American Nuclear Society (ANS)

VICE CHAIR, STUDENT SECTIONS COMMITTEE

June 2019 - PRESENT

MEMBER, STUDENT SECTIONS COMMITTEE

June 2016 - PRESENT

STUDENT DIRECTOR, ANS BOARD OF DIRECTORS

June 2017 - June 2019

EXECUTIVE COMMITTEE, YOUNG MEMBERS GROUP

June 2019 - PRESENT

EXECUTIVE COMMITTEE, NUCLEAR NONPROLIFERATION POLICY DIVISION

June 2018 - PRESENT

MEMBER, DIVERSITY AND INCLUSION COMMITTEE

July 2018 - PRESENT

MEMBER, LOCAL SECTIONS COMMITTEE

June 2016 - June 2019

American Nuclear Society, University of Wisconsin-Madison Student Section

MEMBER

Aug. 2017-PRESENT

GOVERNOR

May 2018 - Dec 2018

ADVOCACY CO-CHAIR

Jun. 2017 - Nov. 2017

Catalysts for Science Policy

MEMBER

June 2019 - PRESENT

Wisconsin Baja Racing

MEMBER

Aug. 2018 - May 2020

American Nuclear Society, University of Illinois 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, University of Illinois Student Section

COFOUNDER

Aug. 2015

MEMBER

Aug. 2015 - May 2017

Engineering Ambassadors, University of Illinois

RECRUITMENT & PUBLICITY CHAIR

Apr. 2016 - Dec. 2016

AMBASSADOR

Nov. 2015 - May 2017

Phi Mu - Delta Beta Chapter

ACADEMIC EXCELLENCE CHAIRMAN

Dec. 2016 - May 2017

MEMBER

Sept. 2016 - May 2017

Engineering Council, University of Illinois

STUDENT INTRODUCTION TO ENGINEERING (SITE) RESERVATIONS CHAIR

May 2015 - May 2016

Student Chapter of the American Meteorological Society

SECRETARY

Apr. 2015 - Apr. 2016

MEMBER

Jan. 2015 - May 2017

Illinois Space Society

RASC-AL TECHNICAL TEAM MEMBER

Aug. 2014 - Dec. 2014

REPRESENTATIVE TO STUDENTS FOR THE EXPLORATION AND DEVELOPMENT OF SPACE (SEDS)

Sept. 2013 - Sept. 2014

DEPARTMENT SERVICE

University of Wisconsin-Madison Department of Engineering Physics

CHAIR, STUDENT ADVISORY COMMITTEE

Apr. 2019-PRESENT

DEPARTMENT REPRESENTATIVE TO THE COLLEGE OF ENGINEERING GRADUATE ADVISORY COMMITTEE

Aug. 2018 - PRESENT

University of Illinois Department of Nuclear, Plasma, and Radiological Engineering

UNDERGRADUATE ADVISORY BOARD REPRESENTATIVE

Apr. 2014 - Dec. 2016

OTHER SERVICE

Generation Atomic

ADVISORY BOARD MEMBER

July 2020-PRESENT

Rethinking Nuclear

SCIENCE ADVISOR

[Madison, WI](#)

2018-PRESENT

Nuclear Innovation Bootcamp 2020

COMMUNICATIONS TEAM

[Madison, WI](#)

Jan 2020-Apr. 2020

Honors & Awards

AWARDS

2020	First place, Institute of Nuclear Materials Management J.D. Williams Student Paper Award
2017	University of Illinois 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 UIUC Most Committed Member
2013	University of Illinois James Scholar

SCHOLARSHIPS AND FELLOWSHIPS

2020-21	ANS Michael J. Lineberry Memorial Scholarship
2020-21	Graduate Fellow, Nuclear Nonproliferation International Safeguards Program (NNIS)
2019-20	Graduate Fellow, Nuclear Nonproliferation International Safeguards Program (NNIS)
2018	Summer Research Fellow, Glenn T. Seaborg Institute
2018-19	Graduate Fellow, Consortium for Verification Technology
2018-19	ANS Fuel Cycle and Waste Management Division Randall Scholar
2017-18	Graduate Fellow, Consortium for Verification Technology
2017-18	ANS Fuel Cycle and Waste Management Division Randall Scholar
2016-17	Roy G. Post Foundation Scholarship
2016-27	Dale W. and Wanda L. Weaver Engineering Scholarship
2016-17	Crowe Horwath Scholarship
2016-17	Edith and Harry Darby Leadership Scholarship
2016-17	DOE Nuclear Energy University Program (IUP) Scholarship Award
2016-17	Nuclear Regulatory Commission Scholarship
2016-17	American Nuclear Society Decommissioning & Environmental Sciences Scholarship
2016-17	Catherine Pritchard Undergraduate Scholarship
2016-17	Mike Harper Leadership Scholarship

2015-16	DOE Nuclear Energy University Program (IUP) Scholarship Award
2015-16	Nuclear Regulatory Commission Scholarship
2015-16	American Nuclear Society Decommissioning & Environmental Sciences Scholarship
2015-16	Catherine Pritchard Undergraduate Scholarship
2015-16	Exelon Energy for Education Scholarship Award
2015-16	National Academy for Nuclear Training Scholarship
2015-16	Mike Harper Leadership Scholarship
2014-15	ANS Incoming Sophomore Scholarships
2014-15	National Academy for Nuclear Training Scholarship
2014-15	Mike Harper Leadership Scholarship
2013-14	Mike Harper Leadership Scholarship

Professional Organizations

Since 2013	Student Member, American Nuclear Society
Since 2015	Member, Women in Nuclear
Since 2015	Student Member, Society of Women Engineers
Since 2017	Member, Earth Science Women's Network
Since 2018	Student Member, Institute of Nuclear Materials Management
Since 2018	Member, C3E Network for Women's Leadership in Clean Energy
Since 2019	Member, National Science Policy Network

PRIOR MEMBERSHIP

2019 - 2020	Student Member, Society of Automotive Engineers
2016 - 2017	Student Member, American Society of Mechanical Engineers
2015 - 2016	Student Member, American Meteorological Society

Short Courses

Young Professionals Nuclear Forum

STANFORD UNIVERSITY CISAC AND MOSCOW ENGINEERING PHYSICS INSTITUTE

Virtual

Nov. 2020 - PRESENT

Nuclear Security: The Nexus Between Policy and Technology

UNIVERSITY OF CALIFORNIA, BERKELEY COURSE NE C285

Virtual

Jan. 2021 - PRESENT

Verification in Nuclear Arms Control

MIT AND PACIFIC NORTHWEST NATIONAL LAB

Virtual

Jan. 2021

ETI Annual Summer School

CONSORTIUM FOR ENABLING TECHNOLOGIES AND INNOVATION

Virtual

August 2020

Nonproliferation and International Safeguards Summer Course

PACIFIC NORTHWEST NATIONAL LAB

Virtual

June 2020

Nondestructive Assay (NDA) Summer Course

LOS ALAMOS NATIONAL LAB

Los Alamos, NM

June 2018

Nuclear Innovation Bootcamp

UNIVERSITY OF CALIFORNIA, BERKELEY

Berkeley, CA

July 2017

Dr. G. Robert Keepin Nonproliferation Science Summer School

LOS ALAMOS NATIONAL LAB

Los Alamos, NM

Jun. - Aug. 2017

Geologic Storage of Nuclear Spent Fuel

SWEDISH ROYAL INSTITUTE OF TECHNOLOGY (KTH) & SWEDISH NUCLEAR FUEL AND WASTE MANAGEMENT CO.

Oskarshamn, Sweden

June 2015

Panels and Webinars

Communicating Safety & Risk to the Public

PANELIST

American Nuclear Society Annual Meeting 2020

Virtual

June 2020

Advocating to Policymakers: Delivering Your Message Credibly

PANELIST

American Nuclear Society Young Professionals Congress 2019

Washington D.C.

Nov. 2019

Nuclear Economics 101

MODERATOR

American Nuclear Society Young Members Group & U.S. Women In Nuclear Webinar

Virtual

Nov. 2019

Nuclear Big Vs. Small

PANELIST

Ecomodernism 2019

Middleburg, VA

Sept 2019

From Nuclear Advocacy to Policy, From Local to Global

PANELIST

American Nuclear Society Annual Meeting 2019

Minneapolis, MN

June 2019

Results of the April 2019 “Fastest Path to Zero” Summit and Unconference

PANELIST

American Nuclear Society Annual Meeting 2019

Minneapolis, MN

June 2019

Getting Involved in a Professional Society

MODERATOR

American Nuclear Society Winter Meeting 2018

Orlando, FL

Nov. 2018

Advocacy and Communication: A Clean Energy Discussion

PANELIST

American Nuclear Society Winter Meeting 2017

Washington, D.C.

Nov. 2017