Greg Westphal

CONTACT INFORMATION	Graduate Research Assistant	mobile: (636) 284-9691
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	Nuclear, Plasma, and Radiological Engineering	website: gtw2.github.io

MS
The goal of this work is to incorporate non-proliferation safeguards by design into fuel cycle facilities. Diversion detection methods are applied to a pyroprocessing facility within Cyclus to inform on key measurement points. This is funded through the Department of Energy Consortia for Non-proliferation Enabling Capabilities.

University of Illinois at Urbana-Champaign, NUCLEAR ENGINEERING   **Dec 2019**
- Thesis: Diversion Detection of Pyroprocessing with Cyclus
- Advisor: Professor Kathryn D. Huff

BS   **Missouri University of Science and Technology**, NUCLEAR ENGINEERING   **May 2017**

SKILLS   **Programming**   C++, Python, XML, SQL, nose, git, LaTeX, MatLab, bash

RESEARCH INTERESTS
Advanced reprocessing and fuel cycles, non-proliferation, nuclear fuel cycle analysis, scientific computation.

RESEARCH EXPERIENCE
University of Illinois at Urbana-Champaign, Urbana, IL
Graduate Research Assistant, Advanced Reactors and Fuel Cycles Group   **Nov 2017 – Present**

- Simulated non-proliferation scenarios with Cyclus.
- Modeled a pyroprocessing facility within Cyclus using C++.
- Analyzed results with diversion detection algorithms and python.

Washington University - St. Louis, St. Louis, MO
Data Analyst, Radiology Department   **May 2016 – Aug 2016**

- Conducted proton dosimetry experiments.
- Gained experience in a medical research environment.
- Utilized Matlab for image processing.

TRAINING
SEE LANL Nuclear Safeguards Training Course
LOS ALAMOS NATIONAL LABORATORY
Hands on non-destructive assay course and IAEA inspection   **January 2019**

TEACHING EXPERIENCE
University of Illinois at Urbana-Champaign
DEPT. OF NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING
NPRE 451, Radiation Lab   **Fall 2017**
NPRE 412, Nuclear Fuel Cycles   **Fall 2017**

HONORS AND AWARDS
Finalist Poster Presentation, UPR 2019	**June 2019**
Graduated MST Summa Cum Laude	**May 2017**
Alpha Nu Sigma Honor Society Member	**Aug 2016 - 2017**

ACTIVITIES
Women in Nuclear Member	**January 2018 – present**
American Nuclear Society Member	**August 2017 – present**
Nuclear Science Design Team Vacuum Group Lead	**Jan 2016 – May 2017**
Kappa Mu Epsilon Member	**Aug 2015 – May 2017**

Selected Presentations

[1] **Westphal, G.**, Huff, K. "Diversion Detection within Cyclus Archetypes", **Technical Workshop on Fuel Cycle Simulation.** Champaign, IL, June 2019.

[2] **Westphal, G.**, Huff, K. "Diversion Detection in Cyclus", **University Program Review.** Raleigh, NC, June 2019.

[3] **Westphal, G.**, Huff, K. "Modelling Pyroprocessing in Cyclus", **Consortia for Non-proliferation Enabling Capabilities Review**, Raleigh, NC, February 2019.

[4] **Westphal, G.**, Huff, K. "PyRe: A Cyclus Pyroprocessing Facility Archetype", **Transactions of the American Nuclear Society Winter Conference.** Orlando, FL, November 2018.

[5] **Westphal, G.**, Huff, K. "Signatures and Observables of the Nuclear Fuel Cycle", **University Program Review.** Ann Arbor, MI, June 2018.

[6] **Westphal, G.**, Huff, K. "Signatures and Observables of the Nuclear Fuel Cycle", **Consortia for Non-proliferation Enabling Capabilities Review**, Raleigh, NC, January 2018.