

Alicja Stoppel

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(317) 989-0988

OBJECTIVE: Learn more about Thermal-Hydraulics in Nuclear Engineering through classes, research opportunities, and internships in hopes to conduct research and help design experimental projects in thermal-hydraulic related problems.

EDUCATION:

Purdue University, West Lafayette, IN
M.S. Nuclear Engineering
Supervisor: Dr. Seungjin Kim
UNLP Fellow

Expected May 2027
GPA: 4.00 / 4.00

Purdue University, West Lafayette, IN
B.S. Nuclear Engineering

May 2025
GPA: 3.99 / 4.00

Avon High School, Avon, IN
Academic Honors Diploma
Class of 2021 Valedictorian

May 2021
Weighted GPA: 5.47 / 4.00
Unweighted GPA: 3.97 / 4.00

WORK EXPERIENCE:

Graduate Researcher, ART LAB, Purdue University

Fall 2025 - Present

- Conducting research in Dr. Kim's Advanced Reactor Thermal Hydraulics Laboratory.
- Supported by the UNLP Fellowship (Fall 2025 - Spring 2028) issued by the U.S. Department of Energy.
- Conduct adiabatic air-water two-phase flow experiments using Purdue's Inclined Test Facility.
- Study how the pipe curvature and inclination impacts local two-phase flow parameters and frictional pressure losses.

Graduate Grader, School of Nuclear Engineering, Purdue University

Fall 2025

- Grade homework and exams for NUCL 350: Thermal-Hydraulics I
- Host weekly office hours to assist students with homework problems and answer any questions
- Explain basic concepts of fluid mechanics to enhance students understanding

Undergraduate Research Assistant, ART Lab, Purdue University

Fall 2023 - Spring 2025

- Conducting research under Dr. Kim's Advanced Reactor Thermal-hydraulics Laboratory.
- Aid graduate students in taking experimental two-phase flow data while varying conditions to study the effects.
- Collaborate with the graduate students in bettering the design of the current two-phase flow test facility.

SULI Intern, Advanced Reactor Systems Group, Oak Ridge National Laboratory

Summer 2024

- Worked alongside Dr. Williams and Dr. Salko on code verification and validation for CTF.
- Validated experimental reflood data from the Rod Bundle Heat Transfer facility using the current CTF models.
- Extracted and calculated various metrics using python to display in an end-of-internship poster and report.

Nuclear Core Design Intern, Innsbrook Technical Center, Dominion Energy

Summer 2023

- Gained knowledge about nuclear core fuel assemblies, procedures for fuel cycles, and optimizing core design.
- Completed calculations and reports to deliver nuclear core data for the DOE and in house projects.
- Used Simulate5 to experiment with a new code card and learned how it tied to nuclear core analysis.
- Trained in nuclear worker safety and radiation worker procedures to obtain unescorted access to plant sites.

Undergraduate Grader, School of Nuclear Engineering, Purdue University

Spring 2023 - Fall 2023

- Grade homework and exams for NUCL 200: Introduction to Nuclear Engineering
- Host weekly office hours to assist students with homework problems and promptly responded to emails.

Engineering Research Intern, BEEP Lab, Purdue University

Summer 2022

- Conducted research under Dr. Garner's BioElectrics and ElectroPhysics Laboratory.

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- Worked on applying low voltage electric fields to plant cells to induce cell division while culturing cells in a biological laboratory setting
 - Researched various applications of electric fields through antennas or other devices
 - Problem solved to obtain the necessary parameters needed to reach desired specifications under a certain frequency and power level

LEADERSHIP EXPERIENCE:

Project Lead, NEUP Grant, *Purdue University* Summer 2025 - Present

- Lead funded research efforts in the Advanced Reactor Thermal-hydraulics Lab under Dr. Kim supported by the Department of Energy's Nuclear Energy University Program (NEUP).
- Manage project scope, reporting requirements, and coordinate between student researchers and DOE sponsors.

Women In Nuclear Social Media Coordinator, *Purdue University* Spring 2023 - Spring 2025

- Establish and uphold an image online along with making connections with other platforms
- Create a page that easily informs others about the club and the nuclear industry

Purdue Cycling Club Outreach Coordinator, *Purdue University* Spring 2022 - Spring 2024

- Reach out to companies to establish partnerships to help support the Cycling Club's ambitions
- Maintain good relations with surrounding clubs and establish an image on social media

RELEVANT SKILLS:

Intermediate Proficiency: Python, Excel, CFD

Beginner Proficiency: MatLab, CTF

AWARDS AND HONORS:

UNLP Fellow, <i>U.S. Department of Energy</i>	2025 - 2028
Outstanding Senior, <i>Purdue School of Nuclear Engineering</i>	2025
NEA Rising Star, <i>Nuclear Energy Agency Global Forum</i>	2024
Alpha Nu Sigma Honor Society Inductee, <i>Purdue School of Nuclear Engineering</i>	2024 - Present
Purdue Outstanding Sophomore, <i>National & International Scholarships Office</i>	2023
Jerome & Brenda Blattner Scholarship, <i>Purdue School of Nuclear Engineering</i>	2023 - 2025
Anderson NE Scholarship, <i>Purdue University</i>	2022 - 2023
Dean's List & Semester Honors, <i>Purdue University</i>	2021 - Present
Purdue Presidential Scholarship, <i>Purdue University</i>	2021 - Present
Purdue Alumni Club Scholarship, <i>Hendricks County Purdue Alumni Club</i>	2021 - 2022
National Merit Finalist, <i>National Merit</i>	2021
AP Scholar with Distinction, <i>College Board</i>	2020 - 2021
XC Scholar Athlete Award, <i>Avon High School</i>	2020
Class of 2021 Indiana Rising Star Award, <i>Avon High School</i>	2019

PUBLICATION LIST:

Journal Publications

- [1] Z. Quan, A. Stoppel, and S. Kim, Two-phase Flow Transport in Pipes with Vertical U-bend, *Nuclear Technology*, Under Review.

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- [2] Z. Quan, **A. Stoppel**, A. Dix, and S. Kim, Experimental Study on Air-Water Two-Phase Flow Across a Vertical U-bend, *Nuclear Technology*, Accepted Jan. 2026.
- [3] **A. Stoppel**, Z. Quan, and S. Kim, Experimental Study of Two-phase Flow Pressure Drop across a U-bend and Evaluation of Existing Correlations, *Nuclear Technology*, Jan. 2026, DOI: <https://doi.org/10.1080/00295450.2025.2561412>
- [4] **A. Stoppel**, Z. Quan, and S. Kim, Study of One-dimensional Two-phase Flow through an Inverted U-bend, *Nuclear Technology*, Dec. 2025, DOI: <https://doi.org/10.1080/00295450.2025.2521876>

Conference Papers

- [1] Z. Quan, **A. Stoppel**, S. Kim, Geometric Effects of Inverted U-bend on Two-phase Transport, *Proceedings of the 2025 21st International Meetings on Nuclear Reactor Thermal Hydraulics (NURETH-21)*, August 31-September 5, Busan, Korea, 2025
- [2] A. Dix, D. Kang, **A. Stoppel**, S. Kim, Exploratory Experiments for Local Parameter Variations in Inclined Two-phase Flows, *Proceedings of 2025 ANS Annual Meeting*, June 15-18, Chicago, IL, 2025
- [3] **A. Stoppel**, Z. Quan, A. Dix, S. Kim, Analyzing Two-phase Frictional Pressure Losses in Horizontal and Vertical Straight Pipes, *Proceedings of 2025 ANS Annual Meeting*, June 15-18, Chicago, IL, 2025
- [4] Z. Quan, **A. Stoppel**, A. Dix, S. Kim, Experimental Study of Air-water Two-phase Flow Across a Vertical U-bend, *International Topical Meetings on Advances in Thermal Hydraulics 2024 (ATH '24)*, November 17-21, Orlando, FL, 2024
- [5] **A. Stoppel**, Z. Quan, S. Kim, Experimental Study of Two-phase Flow Pressure Drop Across a U-bend and Evaluation of Existing Correlations, *International Topical Meetings on Advances in Thermal Hydraulics 2024 (ATH '24)*, November 17-21, Orlando, FL, 2024
- [6] Z. Quan, A. Dix, **A. Stoppel**, S. Kim, Experimental Analysis of Air-water Two-phase Bubbly Flow Across a Vertical U-bend, *Proceedings of 2024 ANS Annual Meeting*, June 16-19, Las Vegas, NV, 2024
- [7] Z. Quan, **A. Stoppel**, S. Kim, Investigation of Two-phase Pressure Drop Across a Vertical U-bend, *Proceedings of 2024 ANS Annual Meeting*, June 16-19, Las Vegas, NV, 2024
- [8] **A. Stoppel**, Z. Quan, S. Kim, Experimental Study on Single- and Two-phase Flows Pressure Drop in a U-bend, *2024 ANS Student Conference*, April 4-6, University Park, PA, 2024