

Nia Williams

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Education

Bachelor of Science in Chemistry

Butler University

2026

Indianapolis, IN

Research Experience

Summer Research Intern

Yale University

Advisor: Seth Herzon

2025

New Haven, CT

- Conducted a four-step route to synthesize a key substrate that leads to the dimerization of late-stage intermediates en route to (–)-Gukulenin A.
- Optimized conditions for dimerization of late-stage intermediates for (–)-Gukulenin B by refining yields through experiments on model systems. Completed two dimerization reactions on model systems in a nitrogen controlled atmospheric glovebox, involving rigorously azeotroped reagents and degassed solvent.
- Synthesized a five step cyclohexenone fragment synthesis on multiple gram scale. Produced an enoxysilane precursor to be employed in an oxidative dimerization strategy.
- Learned how to set up, run, collect, and interpret material from column chromatography. Became proficient to run columns independently to isolate the desired products more efficiently.
- Analyzed rigorous 2D NMR spectra, including COSY, HMBC, and HSQC. Furthered my knowledge and competency of 2D NMR data after analyzing several other complex substituents along the (–)-Gukulenin B route.

Undergraduate Chemistry Research

Butler University

Advisor: Olujide Akinbo

2024–2026

Indianapolis, IN

- Led analytical chemistry project analyzing the nutrient profile of sodium and potassium in dried retail seaweeds determined, in tandem, via Flame Atomic Absorption Spectroscopy (FAAS) and Inductively Coupled Plasma Mass Spectroscopy (ICPMS).
- Established timeline for project objectives, scheduled meetings with research advisor, curated procedures for analytical experiments, and built a poster summary of research results.
- Refined methodology for seaweed classification based on interpretation of data results and their reliability to dietary implications.

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Teaching & Mentoring Experience

Dawg Days Peer Mentor

2025

Butler University, Efroymson Diversity Center

Indianapolis, IN

- Helped to support and acclimate diverse incoming first year students on campus through establishing a strong sense of comradery and community.
- Built genuine connections through mentoring students about social engagement and available campus resources.

International Diversity Ambassador

2024–2025

Butler University, International Student Services

Indianapolis, IN

- Enthusiastically created a supportive environment for international students on campus.
- Prioritized building peer-to-peer connections through group bonding exercise and team outings.

Undergraduate Teaching Assistant

2024–2026

Butler University, Chemistry Department

Indianapolis, IN

- Assisted student experiments by being attentive to questions and offering advice on chemical techniques.
- Worked to prepare and maintain optimal laboratory condition by ensuring equipment is functioning properly and waste is disposed.
- Offered tutoring support to students apart from scheduled laboratory time to help explain lecture material.

Presentations

- **Williams, N**; Callaghan, A; Jones, C; Jugo, M; Henson, E. Effect of Extraction Temperature on Aqueous Caffeine Recovery from Tablets Using HPLC-DAD. Presented at the Butler University Chemistry Department Poster Session, Indianapolis, IN, April 25, 2025; Invited Talk.
- **Williams, N**; Gupta, V; Palazzo, A; Herzon, S. Studies Towards the Synthesis of (–)-Gukulenin B and (–)-Lomaiviticin A. Presented at Yale University Summer Intern Poster Symposium, New Haven, CT, July 30, 2025; Invited Talk.
- **Williams, N**; Akinbo, O. Sodium Variability in Edible Seaweeds. Presented at the American Chemical Society Indiana Section, Indianapolis, IN, November 6, 2025; Invited Talk.
- **Williams, N**; Akinbo, O. Macroelement Variability in Dried Edible Seaweeds. Presented at the National American Chemical Society Spring 2026 Conference, Atlanta, GA, March 22-23, 2026; Invited Talk.

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Community Service

Chemistry Day-Indianapolis Children's Museum 2025

- Assisted families and children to conduct an experiment with "invisible ink" and turmeric.
- Explained scientific concepts from general chemistry, the pH of solutions, to elementary to middle school children.

Saint Vincent de Paul Food Pantry 2025–2026

- Provided support to the local Indianapolis community on a weekly basis.
- Distributed carts, bagged groceries/produce, and restocked food for underserved communities.
- Built genuine connections with the staff, regular volunteers, and weekly patrons.

Future Black Leaders 2025-Present

- Advocated as a college ambassador for the Circle City branch. This included schools such as Butler University, Indianapolis University of Indianapolis, Marian University, and Wabash University.
- Served as the Circle City Secretary and on the administrative committee.
- Organized and participated in service projects across central Indianapolis pertaining to supporting the community and advancing Black education.

Scholarships & Honors

Green Graduation 2026

- Awarded to students advocating for sustainability efforts on campus and within the community.

Think Like a Molecule (Poster Presentation) 2025

- Awarded grand cash prize and best poster presentation and among 40 participants.
- Networked and received productive feedback for communicating complex science to general audiences.

Versiti Community Impact Scholarship 2024

- Awarded to students recognized for strong campus involvement and educational effort.
- Paid directly to financial aid at university (~\$5000)

Butler University Chemistry & Biochemistry Junior Award

- Awarded to an outstanding and involved student within the chemistry & biochemistry department.
- Award given at the end-of-semester departmental award ceremony.

Professional Affiliations

<i>American Chemical Society (ACS)</i>	<i>2025–Present</i>
National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)	<i>2025–Present</i>
Future Black Leaders (College Ambassador)	<i>2025- Present</i>
INROADS Alum	<i>2026–Present</i>