

Kreeshha Saha

☀️ Purdue University ☀️ West Lafayette, IN ☀️
☀️kreeshha.rani@gmail.com☀️

EDUCATION

Purdue University (2022 - 2026)

Bachelor of Science, Biology, Honors

❖ Courses:

- Biology 121, 131, 231, 232, 395
- Chem 115, 129
- Calculus 16010, 16020

West Lafayette Jr/Sr High School (2018-2022)

- ❖ **GPA:** 3.9/4.0
- ❖ **SAT:** 1570/1600
- ❖ **AP Courses:** AP Computer Science Principles; AP B/C Calculus; AP Biology; AP Spanish; AP Macro/Micro Economics; AP Government; AP Statistics

WORK EXPERIENCE

RiKarbon, Inc. (Jun 2022 - Aug 2022)

Research Intern

- ❖ Conducted research on application of a catalyst to break down PET plastic.

Urban Matters Lab (May 2023 - Sep 2023)

Student Team Member

- ❖ Wrote historical narratives for Black Heritage Sites throughout Indiana.
- ❖ Conducted research at Tippecanoe County Historical Archives.
- ❖ Interviewed members of the Lafayette community and led outreach.

RESEARCH EXPERIENCE

Purdue University Lab (2019 - 2022)
Undergraduate/High School Researcher

- ❖ Advisor: Dr. Clark Gedney
- ❖ Utilized software program STELLA
- ❖ Created a systems dynamics model of the enzyme laccase (derived from *Trametes versicolor* fungus) in a continuous culture system.
- ❖ Modeled the growth of *Trametes versicolor* in continuous culture and calculated parameters necessary for substrate degradation.
- ❖ 2019 Intel International Science and Engineering Fair (ISEF) Finalist

PUBLICATIONS

Saha, K., & Gedney, C. (2022). The Impact of PETase's Active Site Disulfide Bond on PET Biodegradation. *Fine Focus*, 8(1), 86–99. <https://doi.org/10.33043/FF.8.1.86-99>

- ❖ Used software program PyMOL to visualize the enzyme PETase.
- ❖ Modified the active site of PETase through removal of disulfide bond.
- ❖ Transformed *E. coli* cells with IDT plasmids to produce original and modified PETase enzymes.
- ❖ Utilized histidine columns for PETase purification and bichionin (BCA) assay.
- ❖ Ran experiments to measure the rate at which PETase enzymes biodegrade BHET plastic.

HONORS AND AWARDS

Futurum Careers

- ❖ Featured in Futurum Careers' [*Future Faces*](#)

International Science and Engineering Fair
2019 National Finalist

- ❖ Presented STELLA systems dynamics research on enzyme laccase.

Girl Scout Gold Award (2020)

- ❖ Founded the West Lafayette Public Library Writing Program (WL Writing).
- ❖ Led book club meetings with students in grades 4 - 6.
- ❖ Coordinated outreach for WL Writing and generated volunteer interest.
- ❖ Collaborated with professors at Purdue University to increase community participation in WL Writing.

SKILLS

Programming Languages

- ❖ R
- ❖ Java
- ❖ Javascript
- ❖ Python
- ❖ Markdown
- ❖ HTML

Languages

- ❖ Hindi - Fluent
- ❖ Bengali - Fluent
- ❖ Spanish - Conversational

VOLUNTEERING

Ace Food Pantry (2022- Present)

- ❖ Distribute food items to food pantry visitors.
- ❖ Participate in outreach and coordinate with businesses (Panera, Payless, etc.) to receive donations.

Amberleigh Lake Cleanup (2020)

- ❖ Helped remove over 90 lbs of trash from Amberleigh Village lake.
- ❖ Worked with the West Lafayette Parks and Rec department to install trash cans near the lake.