Enhancing Diversity in STEM Careers Through Mentored Training

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The Problem

• Students from diverse backgrounds have been systematically prevented from entering STEM fields.
• STEM fields suffer from a lack of representation. According to the National Science Foundation, 89% of the STEM workforce is made up of white people.

Our Solution

• We established the Health and Environment Scholars Program (HESP) at Duke to enhance STEM career readiness for high school students - specifically individuals from groups who have been systematically excluded from STEM careers.
• HESP is a year-long program for Durham Public Schools (DPS) high school students to explore interdisciplinary environmental science and health subjects led by Duke undergraduate mentors.

HESP Mission Statement

HESP integrates the following three themes in the year-long curriculum:

1. Year-round, hands-on programming with local institutions
2. Small-group mentorship across learner levels
3. College readiness training

HESP equips students with necessary skills, knowledge, and experiences while guiding them through academic and career development to support their college application competitiveness and leadership in STEM fields.

Demographics and Curriculum

• 30 students from eight DPS schools
• 14 sessions focused on Health and Environment in North Carolina
• 30 students from eight DPS schools

The HESP @Duke Experience

Year-round, hands-on programming with local institutions and researchers

Students test water quality at the Duke Pond.

A HESP student is looking at cancer cells understand the microscope.

Small-group mentorship across learner levels

HESP highschoolers engage in conversation with their undergraduate mentor.

College readiness training

HESP students listen to a presentation about college applications given by a visitor from the College Corps.

Improvements and Future Directions

• HESP @Duke will continue in 2023-2024 through Bass Connections.
• Enhance our year-long curriculum by integrating college readiness, hands-on activities, and field trips to local institutions.
• Improve the mentor onboarding process.