



# ENVIRONMENTAL SUSTAINABILITY INCREASING UNDER- REPRESENTED STUDENT RESEARCH IN THE FIELD OF ENVIRONMENTAL ENGINEERING

## SUMMARY

This program aims to train high school students, who are historically underrepresented in environmental engineering, to conduct innovative drinking water treatment research.

## DESCRIPTION

Drinking water quality has become a challenging compliance concern in cities across the nation, as emerging contaminants in drinking water are detected at limits previously not measurable. Numerous Wisconsin organizations are urging a commitment to conduct research and implement solutions to preempt a looming local crisis. In response to the need for drinking water research, and the goals detailed in Marquette University's Strategic Plan, the Environmental Sustainability program aims to train high school students to conduct innovative research to reduce drinking water contamination levels.

These students are historically underrepresented in the field of environmental engineering and live in communities that are disproportionately affected by environmental and public health problems. In addition to raising drinking water quality awareness, the high school program will create a robust pipeline of students pursuing water technical careers by affording them the opportunity to intern at the Global Water Center.

## MILESTONES

**Interest:** All 9th grade science classes will be introduced to water studies through "Lab Days."

**Investment:** All 10th grade students will visit the Global Water Center to engage in current drinking water treatment research.

**Inquiry:** All 11th grade science classes will visit the Ecosystem Lab to on a semester long project.

**Internship:** Select 12th grade students will investigate and design solutions in response to real-world challenges related to clean drinking water.

## ABOUT OUR TEAM

### Marquette Team Members

#### **Dr. Kyana Young**

Post Doctoral Fellow, Office of Research and Innovation

#### **Dr. William Welburn**

Executive Director, Diversity and Inclusion, Office of the Provost

#### **Dr. Daniel Zitomer**

Professor of Civil, Construction, and Environmental Engineering

#### **Steven Robertson**

Project Director, Educational Opportunity Program

### External Team Members

#### **Toby Hairston**

Grants Coordinator, Milwaukee Public Schools

#### **Meghan Sun**

Science Teacher, Milwaukee Marshall High School

#### **Rochelle Sandrin**

Science Curriculum Specialist, Milwaukee Public Schools

#### **Larry Farris**

Principal, Milwaukee Marshall High School

#### **Jan Haven**

Director of Innovation, Milwaukee Public Schools

The team is a conglomerate of invested members of the Milwaukee community. Members expertise range from water researchers, to educators, to District personnel. Our focus is to ensure that students who are historically underrepresented in environmental engineering have access to, and are able to take advantage of, opportunities within the water treatment and water technology industry.

## BEYOND BOUNDARIES

This Environmental Sustainability Program supports **Research in Action** by conducting meaningful investigations into a growing problem affecting the Milwaukee community. This program will develop the next generation of water quality and water treatment researchers. Additionally, the program supports a **Culture of Inclusion** by creating a pipeline of historically underrepresented students into Marquette University and Engineering, and through providing an opportunity to foster a more diverse teaching and learning environment creates **Social Responsibility Through Community Engagement**.