



Expanding Hands-On Nanoscience and Nanobiology Experiences for Middle School to Undergraduate Students.

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Background

- Established the WCU Center for Nanomaterials in 2018.
- NSF MRI in 2018 - *Olympus IX83 Inverted Microscope*.
- NSF RUI in 2018 – \$372K - *Publication with two undergraduates*.
- Established the WCU Center for STEM Inclusion in 2020.
- NSF S-STEM in 2020 - \$1M – 20 scholars in the program.
- DOE Appropriations Grant in 2023 - \$716K to establish a mobile outreach program.



 **frontiers**
in Environmental Science

ORIGINAL RESEARCH
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Identification of Major Organisms Involved in Nutritional Ecosystem in the Acidic Soil From Pennsylvania, USA

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Formation of Community Network

- Reached out to non-profits and developed relationships with two local groups that target students from underserved communities.
- Developed a relationship with 20+ local middle and high schools.
- Developed a comprehensive outreach program from Grades 6 – 12.
- Nanoscience is one of our main themes for the outreach program.

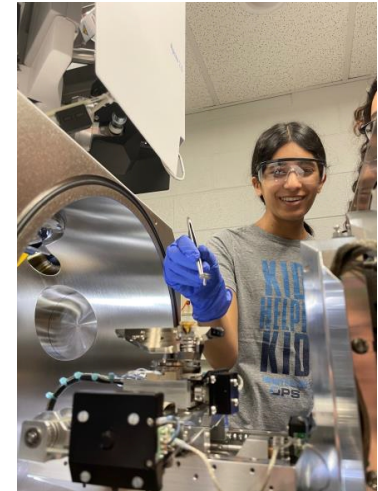


Facilities for Training



Opportunities for Training

- Partnered with the WCU Summer Undergraduate Research Institute.
- In Summer 2023, seven pairs of undergraduates and high school juniors performed nanoscience research in Biology, Biomedical Engineering, Biophysics and Chemistry.
- Started utilizing the Federal Work Study Program to facilitate undergraduate research experiences and training in nanoscience.



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