

Co-Designing Foundational Capabilities to Diversify the Scientific Workforce

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As the U.S. population diversifies, the environmental science workforce lacks the inclusion of historically underrepresented minorities (URM). To address the scope and scale of the dual environmental crisis faced by people and nature, this project seeks to ambitiously transform the understanding of climate-relevant processes while increasing workforce-ready URMs' inclusion in climate science. By creating a foundationally solid URM pipeline through effective mentorship, the project will increase diversity and chances of understanding the urban-rural impacts of climate change in the United States' most populated cities, which is critical to preparing and protecting Earth from future hazardous scenarios. This proposed BER RENEW project is designed to create a Promoting Inclusive and Equitable Research (PIER) plan that catalyzes partnerships with DOE's Earth and Environmental Systems Sciences Division to address identified solvable historically black colleges and universities (HBCU) barriers. The project will accelerate inclusion and diversity of the U.S. science and technology ecosystem to increase the future pool of young scientists with critical skills and expertise. In the long term, the overall goal of this project's motivation is for DOE laboratories to accelerate the ability to hire students out of these workforce-ready programs to further diversity among DOE staff.

The program will be centered around student-first development and student-chosen research by selecting a cohort of at least three students to be mentored in the development of DOE emerging and critical science questions. Project objectives are to: (1) broaden existing institutional capabilities; (2) develop competitive advantages for experiential training opportunities; and (3) increase workforce-ready URMs through effective individualized mentorship plans and PIER plans. HBCU barriers to funding will be addressed to bridge these gaps over the 3-year term with in-person (triquarterly) and virtual (monthly) meetings with strong mentoring to accelerate workforce development.

The project aims to educate and integrate URMs into DOE science with intentional inclusion in an equitable manner, through RENEW team members visiting each other's facilities (host site tours) to share science communications (oral and posters) that result in co-developed competitive proposals. Beneficial outcomes of this project will be new fundamentally inclusive partnerships with DOE and Howard University that are tasked to understand the urban-rural impacts due to climate change in the United States related to energy issues driven by heat stress and the energy cycle that can be scaled. The overall impacts of RENEW will pave the way to ensure the inclusion of diverse voices to increase climate resilience with a transdisciplinary partnership that will minimize impacts on the most vulnerable communities while constraining barriers to HBCUs and URMs.