THE USE OF INTEGRATED EXPERIENTIAL ACTIVITIES TO ENHANCE MINORITY PARTICIPATION IN THE APPLIED GEOSCIENCES AT THE UNIVERSITY OF WISCONSIN-EAU CLAIRE

J. Brian Mahoney, Sarah Vitale, Scott K. Clark, Lori D. Snyder, and Kent M. Syverson, University of Wisconsin-Eau Claire

Mitigation of major societal issues, including climate change, water scarcity and contamination, and resource depletion, requires a diverse, globally integrated professional workforce with a strong background in applied geosciences. Developing this diverse workforce requires purposeful recruitment of underrepresented minorities (URMs including minority ethnic populations, women, and first-generation college students) into the geosciences. Establishment of a progressive, intentional, multi-phase educational pathway that integrates high-impact practices, hands-on learning, and dedicated mentorship is key to successful engagement and retention of URMs in the geosciences.

The Department of Geology and Environmental Science at the University of Wisconsin-Eau Claire is focusing on expanding student diversity through systematic development of this intentional educational pathway. The first step in the program is an experiential, field-based, week-long Summer Institute in Applied Geoscience designed to engage to URM students from regional high schools who have an interest in and aptitude for STEM-related fields. Participants will engage in authentic, career-relevant activities (regional geologic field trips, laboratory analyses, hydrogeologic monitoring and other hands-on activities) that will spark interest in formal geoscience training and introduce a wide range of geoscience career opportunities. Students who matriculate to UW-Eau Claire will then participate in a Foundational Research Experience (FRE), a week-long immersion experience that will introduce students to the scientific method and hypothesis-driven research through collaborative student/faculty research on socially relevant environmental issues immediately prior to joining the University. During their undergraduate experience, students will be intentionally mentored, become part of a distinct cohort, participate in high-impact, experiential educational opportunities, collaborate in student/faculty research, and compete for quality paid internships in industry and government agencies. Each step of the program will be evaluated to provide feedback for iteratively improving the program to make it as effective as possible for URM students to succeed in college and to become successful geoscientists.

Geological Society of America Abstracts with Programs. Vol 54, No. 5, 2022
doi: 10.1130/abs/2022AM-381291