
Application of Research Techniques for Exploration of Unconventional Resources Plays to Increase Diversity in Geosciences Program

Innocent J. Aluka

Department of Chemistry and Physics, Prairie View A&M University, P.O. Box 519, Prairie View, Texas 77446

ABSTRACT

The acute under-representation of minorities in geosciences programs has been recognized in the nation, and well-documented; however, statistics show that not much is improved. The proportion of underrepresented minorities in geosciences would need to triple to match their share of the overall U.S. population in geosciences. Also, recent studies show that 9 percent of all doctoral degrees, 16 percent of all master's degrees, and 17 percent of all bachelor's degrees awarded in the United States of America were awarded to underrepresented minorities. These groups received 4 percent of doctoral degrees, 8 percent of master's degrees, and 13 percent of bachelor's degree in sciences, technology, engineering, and mathematics. In geosciences, the percentage is even lower, with the same group receiving 2 percent of doctoral degrees, 5 percent of master's degrees, and 7 percent of bachelor's degrees.

Findings show that students provided with research opportunities earlier in their careers acquire the necessary knowledge required for success. As a result, students are introduced to a geoscience research techniques used to explore unconventional resources plays, by teaching them hands-on state-of-the-art software and equipment used in oil industries. They are subjected to intensive and well-structured horizontal and vertical mentoring, tutorials, field work, guidelines to pursue graduate studies, and participation in organized seminars, including careers in geosciences.

The research approach leads to increase in the number of students enrolled in geosciences, rate of graduation of minority population, rate of course completion, and persistence in geosciences program. The students are familiar with styles of writing journal articles and presentation of research results in geoscience conferences.