

## Who will do Nanotechnology in the Future?

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### Abstract

The Nanoscience Project at Hampton University (NanoHU) has responded to the general call to broaden participation of underrepresented groups in science, technology, engineering, and mathematics (STEM) across the globe. Funded by the National Science Foundation, the seven-year project (2012-2019) has established a successful model for preparing underserved populations for engagement in nanoscience and nanotechnology. The NanoHU model is responsible for the formalization of a nanoscience program at Hampton University, a historically black college and university (HBCU) that has in turn, effected multidimensional impact in STEM education beyond the institution. By way of NanoHU, nanoscience is infused into the Hampton University curriculum resulting curricular design and re-design to establish a nanoscience minor. The manner in which the minor has been offered presents an alternative approach to offering minors not directly aligned to a major. NanoHU has also successfully prepared undergraduate students from underserved populations for successful matriculation through STEM programs, in preparation for enrolment in graduate STEM programs. Moreover, NanoHU has been instrumental in increased research activity by undergraduates and faculty as evidenced by increased scholarship. Efforts to communicate the importance of nanoscience to the HU community through seminars resulted in infusion of nanoscience modules in STEM and non-STEM courses including courses in English, Journalism, Ethics and other pre-law courses. NanoHU includes a viable outreach program that has prepared high school students (NanoHU Pioneers) for successful matriculation as STEM majors at the college level, and stimulated STEM interest in the surrounding community. Although established for the specific needs of Hampton University, the innovative NanoHU model promises to be elicit similar successes if replicated at other institutions with a similar construct.

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