

The Kent State University Scholarships for Broadening Participation in Sciences

Funded by

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S-STEM Scholarships for Broadening Participation in Sciences

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Project Summary

The proposed project, The Kent State University Scholarships for Broadening Participation in the Physical Sciences, will provide 22 undergraduate scholarships, averaging \$5K each, to promising science students who come from low-income or underrepresented groups thereby enabling them to pursue full-time program of studies that can be completed in four years. These students will be linked academically through a shared interest in computational and quantitative approaches to problem solving in the physical sciences (Computer Science, Chemistry, Physics, Geology, and Physical Chemistry).

The *intellectual merit* of this project also arises from the comprehensive way in which will approach the problem of recruitment and retention of students from underrepresented groups into the physical sciences. The pool of candidates for this program will come from students already enrolled at Kent State University and those planning to enter the main Kent campus as first-year, transfer, and transitional students. Through careful consideration of the applicants, only students who have a firm commitment to the program will be awarded scholarships. Scholarship recipients will be selected from applicants who possess high grade point averages, can lucidly express in an essay what they wish to accomplish through their studies, and have first-rate recommendations from their professors and, when available, mentors from industry and business. We will work closely with the KSU Upward Bound programs to identify qualified students and prepare them for the rigors of a college education in the sciences. Upward Bound has a 90% success rate with matriculation of its graduates into college. All scholarship recipients will be guided by the project PI's to ensure that each scholarship holder makes progress in the program and that any encountered difficulties can be immediately resolved. Students will be encouraged to take advantage of existing tutoring programs, to form study groups. They will also be steered in the direction of participating in the department's existing internship program and the department's BS/MS program. Once at Kent, our students will live together in a *Science Learning Community*, take related math and sciences courses as part of their science majors, an interdepartmental capstone course, and will interact with peers from the McNair Scholars and Honors College programs. They will have close contact with faculty mentors on research projects. By creating a close knit, nurturing environment we will help our students to reach their full potential in college and beyond. The Kent State Career Service Center will help

scholarship holders' transition to the workforce or graduate school after graduation, and appropriate university services will help those with an entrepreneurial spirit to set up their own companies.

The ***broader impacts*** of this project will be to provide the opportunity for many low-income students, including those who come from backgrounds underrepresented in the physical sciences –women, students with disabilities, and those who come from the inner-city, rural areas, and Appalachia to pursue a career in the physical sciences. By providing such opportunities to these demographic categories, these students will be able to better their lives, as well as the lives of their own social groups, and to help improve their local economies by strengthening the tax base of their communities and by possibly developing new enterprises and other businesses. Students who pursue academic and research work will help to expand understanding within the physical sciences and to impart their gained knowledge to their own students. This program will help the local economy evolve towards relying more on high tech industries; a goal consistent with Governor Taft's Statewide, Third Frontier Initiative, indicating the long term potential to institutionalize the scholarship program.