

Abstract Submitted  
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**STAIRSTEP – a research-oriented program for undergraduate students at Lamar University** CRISTIAN BAHRIM, Department of Physics, Lamar University — The relative low number of undergraduate STEM students in many science disciplines, and in particular in physics, represents a major concern for our faculty and the administration at Lamar University. Therefore, a collaborative effort between several science programs, including computer science, chemistry, geology, mathematics and physics was set up with the goal of increasing the number of science majors and to minimize the retention rate. Lamar’s Student Advancing through Involvement in Research Student Talent Expansion Program (STAIRSTEP) is a NSF-DUE sponsored program designed to motivate STEM students to graduate with a science degree from one of these five disciplines by involving them in state-of-the-art research projects and various outreach activities organized on-campus or in road shows at the secondary and high schools [1]. The physics program offers hands-on experience in optics, such as computer-based experiments for studying the diffraction and interference of light incident on nettings or electronic wave packets incident on crystals, with applications in optical imaging, electron microscopy, and crystallography. The impact of the various activities done in STAIRSTEP on our Physics Program will be discussed. [1] Doerschuk P, Bahrim C, Daniel J, Kruger J, Mann J, and Martin Ch, *39th ASEE/IEEE Frontiers in Education Conference*, San Antonio 2009, M3F-1-2.

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