

MAR11-2010-002965

Abstract for an Invited Paper
for the MAR11 Meeting of
the American Physical Society

SPIN-UP and Preparing Undergraduate Physics Majors for Careers in Industry¹

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Seven years ago, the Strategic Programs for Innovations in Undergraduate Physics (SPIN-UP) Report produced by the National Task Force on Undergraduate Physics identified several key characteristics of thriving undergraduate physics departments including steps these departments had taken to prepare students better for careers in industry. Today statistical data from AIP shows that almost 40% of students graduating with a degree in physics seek employment as soon as they graduate. Successful undergraduate physics programs have taken steps to adapt their rigorous physics programs to ensure that graduating seniors have the skills they need to enter the industrial workplace as well as to go on to graduate school in physics. Typical strategies noted during a series of SPIN-UP workshops funded by a grant from NSF to APS, AAPT, and AIP include flexible curricula, early introduction of undergraduates to research techniques, revised laboratory experiences that provide students with skills they need to move directly into jobs, and increased emphasis on “soft” skills such as communication and team work. Despite significant success, undergraduate programs face continuing challenges in preparing students to work in industry, most significantly the fact that there is no job called “physicist” at the undergraduate level.

¹supported by grant NSF DUE-0741560