APR12-2011-000063

Abstract for an Invited Paper
for the APR12 Meeting of
the American Physical Society

Physics in US High Schools: Truths and Untruths

SUSAN WHITE, American Institute of Physics

Georg Christoph Lichtenberg once noted that "[t]he most dangerous untruths are truths moderately distorted." In this talk, I will look at truths – and attempt to dispel untruths – regarding physics in US high schools. Using data from our quadrennial Nationwide Survey of High School Physics Teachers, I'll address questions such as:

- Does every student in the US have access to physics in high school?
- Does every student take physics in high school?
- Does taking physics in high school impact future career paths?
- How well do students in different states do with respect to high school physics and preparation for STEM careers?
- Do high school physics teachers have physics training?
- How well are females and minorities represented in high school physics?
- Did every student earning a bachelor's degree in physics from a US institution take physics in high school?

I will also consider the impact of high school physics on future academic pursuits in STEM fields using the Science and Engineering Readiness Index (SERI) developed by Paul Cottle and me. SERI provides a way to examine progress in K-12 physical science education on a state-by-state basis. By the way, Lichtenberg was the first person to hold a professorship dedicated to experimental physics in Germany and was one of the first scientists to introduce experiments with apparatus in his lectures. Today he is remembered for his investigations in electricity, for discovering branching discharge patterns on dielectrics now called Lichtenberg figures. As every physicist does, he wanted to get at the truth and avoid distortions. This talk does just that.