

SES16-2016-000053

Abstract for an Invited Paper
for the SES16 Meeting of
the American Physical Society

Smartphones in Labs Don't Have to Be "Black Boxes"¹

COLLEEN COUNTRYMAN, North Carolina State University

The internal sensors within students' smartphones can be used to collect data in introductory mechanics labs. Our free "MyTech" app provides students with meaningful laboratory experiences that positively impact their attitudes about physics. Our project includes the development of a curriculum, the creation of a mobile app, and the determination of the impact of students' smartphones on their learning of physics concepts, attitudes regarding their laboratory experience and use of the devices outside of class. In addition to enhanced abilities to make "real world connections," students using the MyTech app were also more adept at describing how their laboratory equipment collected data when using the smartphone app and its corresponding curriculum. We posit the reasoning for this improved understanding of how the devices collect data. We will discuss these results and how instructors can utilize the app and curriculum in their own classroom.

¹NCSU DELTA Exploratory Grant 201613-70643