APS March Meeting 2015
San Antonio, Texas
http://www.aps.org/meetings/march/index.cfm
8:00AM F33.00001 Are you a “physics person”? Understanding students’ experiences, identities, and beliefs

GEOFF POTVIN, Department of Physics, and STEM Transformation Institute, Florida International University — For several years, there has been much attention paid to the dearth of women in physics. Discussion has centered on various explanatory frameworks as to why women do not pursue physics in college as a career and on their persistence in such pursuits. In this talk, I will summarize efforts by our group to investigate recruitment and persistence issues for women in high school and undergraduate physics. Viewed through the lens of identity, we have repeatedly seen the importance of high school students’ beliefs about the recognition they receive as a “physics person” to their identity development (especially so for women) and, ultimately, their physics-related career choices. Separately, we have studied the ways in which students evaluate their male and female physics teachers, which is an avenue to unravel students’ beliefs and (possible) gender biases towards competency in physics. We have found statistically significant and replicable bias (in repeated independent measurements) against female physics teachers, exhibited by both male and female students. Lastly, I will report on a series of interventions that we have implemented in introductory college physics classrooms as attempts to positively affect women’s attitudes towards physics, and their physics identities specifically.

8:36AM F33.00002 Understanding Women’s Success in Physics through Self-Efficacy

VASHTI SAWTELLE, Michigan State University — The underrepresentation of women in physics has been well documented and is a source of concern for both policy makers and educators. Considerable research has shown a connection between students’ confidence in their ability to perform well (also known as self-efficacy) and persistence in science fields. In this presentation I will build from research that suggests men and women draw from different types experiences when evaluating their self-efficacy. I will demonstrate through a logistic regression analysis that self-efficacy is a positive predictor of success for women and men in introductory physics, and that the sources these students draw upon differ by gender. Through qualitative data, I will also present a variety of ways that students may develop their confidence in their ability to succeed in physics.

9:12AM F33.00003 “We’re all unisex anyway”: The persistent discourse of gender neutrality in physics

ALLISON GONSALVES, McGill University — Doctoral physics students have stories about the kinds of actions, behaviours and ways of doing physics that enable them to be recognized as physicists. This presentation will illuminate some of these stories through a lens that scrutinizes how discourses about gender can shape both the stories that students tell and the behaviours they practice to achieve recognition in their field. Through observations, photo-elicitation, and life history interviews, eleven men and women shared stories about their experiences with physics, and the contexts that have enabled or constrained their participation in doctoral physics. The results of this study revealed that recognition was often achieved through the reproduction or reworking of persistent discourses of gender norms. This presentation will explore the particularly persistent discourse of gender neutrality in physics. I will explore how this discourse is constructed, how it can be contested, and how it may be constraining for both men and women students. The construction of physics as gender neutral can pose conflicts of identity for students who feel the need to refigure their gender performances in ways that permit recognition as “physics people.” This presentation will look at two case studies that demonstrate the conflict students experience between expressions of femininity and doing physics against the backdrop of gender neutrality. I will also discuss some of the creative solutions doctoral students adopt to navigate discourses of gender in this neutral terrain.

9:48AM F33.00004 Panel Discussion: Women in Physics Groups with A. Coil, C. Boekema, E. Yitamben, and J. Walrath

—Panel Discussion: Women in Physics Groups with A. Coil, University of California; C. Boekema, San Jose State University; E. Yitamben, Purdue University; and J. Walrath, University of Michigan.