Tinker, Thinker, Maker and CEO: Reimagining the Physics Student as Engineer, Inventor, and Entrepreneur

CRYSTAL BAILEY, American Physical Society — Physics degree holders are among the most employable in the world, often doing everything from managing a research lab at a multi-million dollar corporation, to developing solutions to global problems in their own small startups. Employers know that with a physics training, a potential hire has acquired a broad problem-solving skill set that translates to almost any environment, as well as an ability to be self-guided and -motivated so that they can learn whatever skills are needed to successfully achieve their goals. Therefore it’s no surprise that the majority of physics graduates find employment in private sector, industrial settings. Yet at the same time, only about 25% of graduating PhDs will take a permanent faculty position—while academic careers are usually the only track to which students are exposed while earning their degrees. In this talk, I will examine the role of physicist as innovator and how this role intersects with other similar STEM disciplines (such as engineering), and provide some insight into how implementing physics innovation and entrepreneurship (PIE) education will benefit both physics departments and the students they serve, regardless of students’ eventual career choices. Additionally, I will provide resources to help faculty mentors give their students better information and training for a broader scope of career possibilities, and information about how educators can get involved in the growing community of PIE educators.