

## Joint Symposium

### J-1

Biotechnology at Ivy Tech: Designing a Degree Program in Partnership with Industry. JOSE M. HANQUIER<sup>1</sup> and TODD W. MURPHY<sup>2</sup>. <sup>1</sup>Principal Research Scientist, Eli Lilly and Company, Indianapolis, IN and <sup>2</sup>Biotechnology Program Director, Ivy Tech Central Indiana, Indianapolis, IN. Email: jmhanq@lilly.com, twmurphy@ivytech.edu

Increasing technical complexity and changes in regulatory requirements have driven companies in the biotechnology industry to recruit candidates with a strong background in biology or biochemistry for entry level positions. As part of this trend, a gap analysis of workforce needs for life science industries in Central Indiana resulted in the creation of a partnership comprised of representatives of industry, academia, and local government. The focus of this partnership was the design, approval, and implementation of an academic curriculum able to provide both sound scientific foundations and hands-on experience to students in biomanufacturing and biotechnology research alike. In order to define the scope of this curriculum, the industrial partners created a list of skills and knowledge standards for various types of activities common to the life science industries. These standards encompassed a broad range of scientific disciplines, including molecular biology, microbiology, biochemistry, statistical sciences, and analytical chemistry. This list was shared with the academic partners, who in turn completed a gap analysis between existing classes offered in their biology or chemistry programs and the expectations from their industrial partners. This analysis led to the design, in collaboration with the industrial partners, of new classes necessary to bridge the identified gaps. The resulting curriculum was packaged as an Associate in Science (A.S.) degree with or without articulation to a four-year degree, and is currently successfully delivered at several academic institutions in Indiana. This presentation will focus on the design of the curriculum and its implementation, with a particular focus on harmonization both at a local and national level, degree articulation, and mechanisms to ensure and enhance program effectiveness.