

Introducing the NSF-ATE InnovATEBIO National Biotechnology Education Center

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Abstract

Community colleges play a vital role in preparing the highly skilled technical workforce needed to support the biotechnology industry. Community colleges offer students hands-on practical experience, certificates, and technical degrees. Students include high-school graduates, individuals changing careers, college graduates, and even PhD holders. As these colleges support the many facets of the biotechnology industry, their laboratories are equipped to teach modern techniques, including DNA sequencing, mass spectrometry, microscopy, chromatography, immunoassays, and bioinformatics. Many programs are also developing education skill standards and curriculum to support the latest biotechnology manufacturing that includes CRISPR-based gene therapies, CAR-T, immuno-therapeutics, and patient derived tissues. Some programs have established contract service organizations and business incubators to catalyze regional economic development and provide internships for students entering the workforce. These college-run organizations share many similarities with ABRF core facilities. Over the last 20+ years, community college biotechnology programs have come together to share experiences and learning through the Bio-Link network. Bio-Link was funded by the NSF-ATE (National Science Foundation Advanced Technological Education) program until the fall of 2018. In the fall of 2019, InnovATEBIO, a new national center for biotechnology education, was initiated through a five-year NSF-ATE award. InnovATEBIO will build on the Bio-Link foundation to further advance connections between high schools, community colleges, and the biotechnology industry to increase the number of highly trained biotechnology technicians in the United States. InnovATEBIO will support activities designed to increase authentic research and work-based experiences and seeks to develop collaborations with ABRF members supporting course development and partner on projects that could be funded by NSF or others.