INTEGRATION OF GENOMICS INTO THE UNDERGRADUATE BIOLOGY CURRICULUM. Kirk Cammarata, Texas A&M University-Corpus Christi, Corpus Christi, TX.

Genomics is a new mindset for biological discovery in which a systems approach is used to understand organismal function. It is rooted in a detailed knowledge of genome sequences and molecular mechanisms of gene expression. This emerging discipline impacts agriculture, medicine and environment in profound ways. The USDA Higher Education Program for Hispanic Serving Institutions sponsors a project (Program Agreement # 2001-38422-10973) to develop Genomics curriculum for integration into the undergraduate science curriculum at HSIs in Texas. Our goal is to train under-represented students in advanced genomics technologies as a means to attract more students into agriculture-related careers and to reduce attrition from science programs. Specific objectives are to: 1) Develop faculty expertise in genomics; 2) develop and disseminate genomics-based curricula; and 3) implement a 3-yr undergraduate research/mentoring program. TxCETP, the Texas collaborative for Excellence in Teacher Preparation (http://sci.tamucc.edu/txctep/) provides assistance to collaboratively develop and disseminate the curriculum. A faculty development workshop was held 8-10 Nov 2002 with presenters from the Clemson University Genomics Institute, Monsanto Company and Molecular Mining Corporation. Participants learned about genomics, received hands-on bioinformatics training and planned curriculum development activities which are currently underway. An upper division course in Genomics and brief modules for Genetics, Cell Biology and Botany Laboratory classes have been developed and offered. Undergraduate research is supported to provide hands-on training and mentoring. A project website (http://www.sci.tamucc.edu/genomed/) is used for curriculum dissemination and project documentation.