

2.2.4 Action plan to increase undergraduate students' engagement in research.

Accomplishments to Date:

Since Dr. Robinson's tenure, there has been continuous effort to increase undergraduate students' engagement in research. The establishment of the FAMU Undergraduate Research Organization (FAMU-UgRO) spearheaded by Dr. Richard Gragg (School of the Environment) has established an interest group to recruit FAMU professors for high-quality undergraduate student-faculty collaborative research and scholarships through the national program – Council of Undergraduate Research (CUR). The goal is to establish an undergraduate research program that will:

1. Enhances student learning through mentoring relationships with faculty
2. Increases retention
3. Increases enrollment in graduate education and provides effective career preparation
4. Develops critical thinking, creativity, problem-solving, and intellectual independence
5. Develops an understanding of research methodology
6. Promotes an innovation-oriented culture

Other opportunities available for students to engage in research

Florida A&M University Energy Water Food Nexus (EWFN) International 2017 Summit

- The Energy Water Food Nexus is a new science enterprise launched through a global public-private partnership that seeks to provide sustainable and innovative solutions for energy, water and food security. One of the goals for EWFN is to establish an International Scholar-in-Residence program that promotes global engagement in resolving energy, water and food issues through the training of the next generation of scientists, innovators and policy-makers.
- The Summit also promoted undergraduate research poster presentations in the area of Environmental Sciences, Agriculture & Food Sciences, Biology & Chemistry, and Engineering.

FAMU Florida Georgia Louis Stokes Alliance for Minority Participation

- Undergraduate research grant initiative funded by the National Science Foundation (NSF). The goal is to significantly increase the numbers of STEM baccalaureate, masters and Ph.D. recipients through the implementation of best practices.

- The FGLSAMP model employs a holistic approach to meet FAM's goal of increase in STEM recruitment, retention and graduation.

FAMU-TCC Bridges to the Baccalaureate Program in the Biomedical Sciences

- The Bridges to the Baccalaureate Program is an initiative to attract underrepresented minority students to careers in the biomedical sciences. The program is funded by the prestigious National Institute of Health (NIH).
- The mission is to cultivate and increase the numbers of qualified African-American, Hispanic, Native American and other underrepresented minority students from Tallahassee Community College (TCC) whose future goals are to obtain a four year degree in biomedical sciences from Florida A&M University.
- The Bridges program is a partnership between FAMU and TCC to provide participants with the academic skills, research experience and support network for successful careers in biomedical sciences.
- The baccalaureate programs at FAMU include Life Sciences (Agronomy, Food and Animal Sciences); Biology; Chemistry/Biochemistry; Biomedical Engineering; Environmental Health Science and Pharmaceutical Sciences.

FAMU Research Experience for Undergraduates (REU) Program

- The REU in Genomics, Proteomics and Bioinformatics" award to Florida A&M University located in Tallahassee FL, will support the training of eight undergraduate students for ten weeks during the summers of 2016-2019.
- The program goal is to enhance student' learning experience in "Systems Biology" and stimulate their appetite for graduate studies and careers in STEM disciplines. This research training will occur at Department of Biological Sciences located on campus focusing the areas of genomics, proteomics, metabolomics, and bioinformatics.

FAMU NOAA Environmental Cooperative Science Center (ECSC)

The mission of the FAMU NOAA Environmental Cooperative Science Center (ECSC) Program is to meet the agency's workforce needs in the STEM areas (science, technology, mathematics and engineering). FAMU NOAA ECSC Program focuses on the following goals:

- Increasing the number of well trained and highly qualified scientists and managers, particularly from under-represented minority groups entering the NOAA and NOAA-related workforce (The center has increased the number of scientists, particularly from under-represented minority groups in the environmental, coastal, and oceanic sciences. Of the 180 plus postsecondary student participants, the ECSC graduated 19 Ph.D. degree recipients, 41 master's degree holders, and 56 bachelor's degree recipients. Graduates of ECSC and the FAMU School of the Environment have a 100% placement rate);
- Enhancing the scientific understanding of how people interact with the coastal environment as it relates to the response of coastal and marine ecosystems to natural and human induced stressors;
- Improving the scientific bases for coastal resource management to develop tools and research products to characterize, evaluate, and forecast coastal and marine ecosystem responses to natural and human induced stressors; and
- Facilitating community education and outreach related to the function and relevance of coastal ecosystems and the services they provide to society.

FAMU Sustainable Food, Energy, and Water Systems (SFEWS)

This research project is funded by the National Science Foundation Research Traineeship (NRT). The mission of the project is to form an interdisciplinary traineeship program that will train graduate students in the skills needed to produce sustainable supplies of food, energy and water (FEW) for a more heavily populated earth. The project anticipates training 48 PhD students, including 24 funded trainees, from agronomy, agricultural and biological engineering, electrical and computer engineering, chemical engineering, materials science and engineering, chemistry, and agricultural economics.