Four Delaware HS Teachers do Research in DSU Summer Program

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Delaware State University's Center for Research and Education in Optics Sciences (CREOSA) has taken four Delaware high school science teachers into its laboratories to give them greater knowledge and experience to apply in their science classrooms.

This year marks the first time the CREOSA programs has included high school science teachers in its Summer Research Outreach Program, which in its third year. In addition to the teachers, the June 8-July 31 outreach program includes 17 undergraduate students (four from DSU and 13 from universities from across the U.S.) and two Delaware high school students.

Each of the participants are working on individual research projects in optics. The participating high school science teachers are Thomas J. Byrnes III, Polytech High School, Mark Connelly and Robert Patton, both from Dover High School, and David Kook of Christiana High School.

Dr. Aristides Marcano, CREOSA scientist, works with David Kook of Christiana High School on his research project.

Mr. Kook, who is studying the thermal lensing and absorbance spectra of scattering dye solutions, said that his summer research experience will pay science dividends in the his high school classroom.

"I can take back some practical knowledge and show students how the research I'm doing has practical applications," Mr. Kook said.

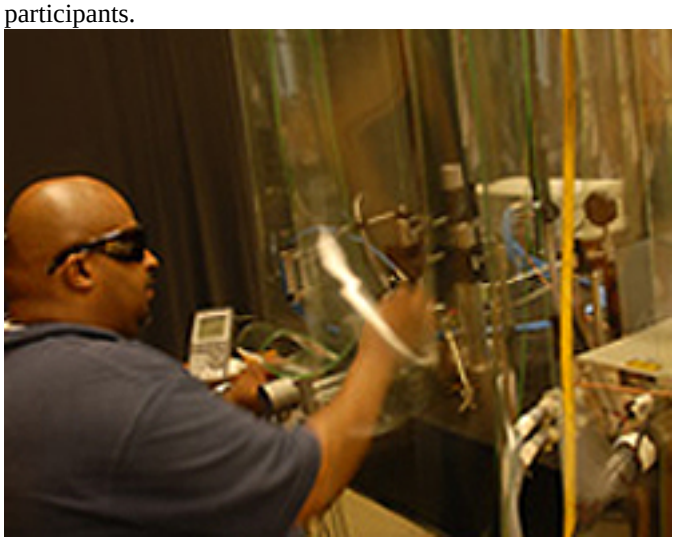
Mr. Connelly, who is learning techniques in Laser Induced Breakdown Spectroscopy, said the experience is helping him rethink his high school curriculum. "I will be modifying my lesson plans in the areas of energy and matter to be more effective in reaching 9th graders," he said.

Dr. Noureddine Melikechi, director of the CREOSA Center and acting dean of the College of Mathematics, Natural Sciences and Technology, said the program demonstrates CREOSA's commitment to make an impact in the community. He said it shows teachers the caliber of research that takes place at DSU and enhances the intellectual and scientific capacity of the teachers through their individual research projects.

He said the program also provides the teachers with a multi-disciplinary approach to focus on scientific programs that they are

interested in. “At the same time, the teachers are able to interact with our faculty as well as with students from all over the United States,” Dr. Melikechi said.

The CREOSA Summer Research Program began with four undergraduate students in 2007. This year, the program has grown to 23 participants.



Mark Connelly of Dover High School calibrates and LIB laser for his research project.

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