FloridaLearns STEM Scholars
STEM Brief
Summer 2014

Students from Calhoun, Jackson, and Washington Counties participate in the *FloridaLearns STEM Scholars* Summer Challenge *D^{3}NanoChallenge (Dream, Design and Do)*

Many of the Panhandle Area Educational Consortium's *FloridaLearns STEM Scholars* Project participants will begin the academic year with new skills, developed through participation in one of the project-sponsored Summer Challenges. The Summer Challenges gave gifted and talented students in the consortium-served small and rural districts opportunities to explore STEM content in depth, collaboratively problem solve and conduct investigations, enhance leadership skills and learn about STEM careers.

STEM Scholars from Calhoun, Jackson and Washington Counties participated in a four-day STEM experience, *D^{3}NanoChallenge (Dream, Design, Do),* at Chipola College in Marianna and the National High Magnetic Field Laboratory in Tallahassee. Florida State University's Physics Department Chair, James Brooks, Ph.D. and Tallahassee Community College's Associate Professor Mabry Gaboardi, Ph.D. challenged students to focus on materials science and the emerging area of Nanotechnology. Collaborating as a team, students worked to design instruments to test specific materials in order to determine the material's characteristics. The teams then used the tools they developed to find the material most suited for a specific task. An exciting culmination of the week included a tour of the High Performance Materials Institute to learn how nanomaterials are actually created, interview the scientists who work there, and create and observe their own nanomaterials.

This engagement in an authentic STEM research experience, under the guidance of Dr. Brooks and Dr. Gaboardi, provided students with valuable information about potential STEM career options as they worked as a research team to creatively solve real world problems.

Zoee Warren (Cottondale HS) and Bryce Sasser (Vernon HS) test the electrical conductivity of the material they designed.

Participating School Districts

Panhandle Area Educational Consortium
Patrick L. McDaniel, Executive Director
Calhoun
Franklin
Gadsden
Gulf
Holmes
Jackson
Jefferson
Liberty
Madison
Taylor
Wakulla
Walton
Washington

Heartland Educational Consortium
Dr. Debra Elliott, Executive Director
DeSoto
Glades
Hardee
Hendry
Highlands
Okeechobee

North East Florida Educational Consortium
James Surrency, Ph.D., Executive Director
Columbia
Flagler
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Lafayette
Levy
P.K. Yonge
Putnam
Union

FloridaLearns STEM SCHOLARS
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Florida's Rural STEM Education Initiative
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David Horton (Graceville HS), Kim Butler (Chipley HS), and Seth Alday (Altha School) create their own epitaxial structure.

Morgan Laramore (Marianna HS) and Corey Darnell (Blountstown HS) experience the difficulty of working with nanoparticles.

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Hunter Kneller (Holmes County HS) is checking their design, looking for any imperfections in the material after testing.

Daniel Humphries (Vernon HS), McKaylah See (Cottondale HS), and Jennifer Moore (Altha School) work collaboratively as they experience the challenges of creating nanostructures.

Nathan Glover (Chipley HS), Dylan Watkins (Graceville HS) and Collin Mears (Altha School) plan and construct their epitaxial structure.

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