Visualizing a future career in computational science.

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RII: Louisiana Alliance for Simulation-Guided Materials Applications (LA-SiGMA) Louisiana **2010-2015**
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What is the outcome or accomplishment?

The Research Experience for High School Students (REHSS) program, sponsored and mentored by researchers with the Louisiana Alliance for Simulation-Guided Materials Applications (LA-SiGMA), has spurred the minds of many students. One particular STEM rising star, Ms. Rhiannan Berry of Independence, Louisiana, is actively building her career in computational science as a result of her participation in the REHSS program.

Ms. Rhiannan Berry (left) with her mentors, Dr. Juana Moreno (center), and Mr. Brad Burkman (right), at the the LSU Conference on Undergraduate Research.

Credit: Staci Kramer, Louisiana State University.

What is the impact?

During the summer of 2014 between her junior and senior year in high school at the Louisiana School for Math, Science and the Arts (LSMSA), Berry attended the REHSS program at Louisiana State University's Center for Computation & Technology. During the program, Berry designed a game for the Oculus Rift virtual reality head-mounted display where users piloted a spaceship and landed it on other planets while learning scientific principles.

Ms. Rhiannan Berry demonstrates her virtual reality application during her poster presentation titled, "Oculus Rift: The Future of Scientific Visualization," during the Undergraduate Research Conference at Louisiana State University.

Credit: Staci Kramer, Louisiana State University.

Building upon her summer experience, Berry continued to work with the Oculus Rift during the school year under the mentorship of Dr. Juana Moreno, LA-SiGMA researcher and Associate Professor of Physics at Louisiana State University, and Mr. Brad Burkman, Berry's Mathematics Teacher at LSMSA and multi-year LA-SiGMA Research Experience for Teachers participant. In the fall of 2014, she was invited to participate in the LSU Conference on Undergraduate Research, where she presented her poster, "Oculus Rift: The Future of Scientific Visualization." The poster took second place in the Technology and Engineering Level 1 competition, beating out numerous college students.

With funding Berry received from the Louisiana School Foundation during her senior year, she continued to develop the interface of her scientific visualization application with C#. This work earned her LSMSA's highest academic honor, Graduation with Distinction. Berry will begin her undergraduate studies in Computer Science this fall at Georgia Tech University.

What explanation/background does the lay reader need to understand the significance of this outcome?

This REHSS program is a six-week summer program where students work collaboratively on a wide variety of computational science projects. LA-SiGMA researchers provide numerous projects for the REHSS students to become familiar with interdisciplinary research, experience performing cutting edge research in material sciences and computational tools, and exposure to how international collaborations work.