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Suffolk Student Cassandra Nyati to Present Research Abstract to International Audience at National Conference in Lexington, Kentucky

PRESS RELEASES

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Cassandra Nyati, a Suffolk County Community College from Brentwood and a liberal arts, science and biology major, has been invited to the National Conference on ...

Long Island, NY - March 13, 2014 - Cassandra Nyati, a Suffolk County Community College from Brentwood and a liberal arts, science and biology major, has been invited to the National Conference on Undergraduate Research (NCUR) in Lexington, Kentucky where she will present her research abstract to students faculty and staff from around the world.



Cassandra's research, "Internalization and Colocalization in Raft-Mediated Endocytosis," was selected for presentation from more than 4,000 submissions to the NCUR 2014 Abstract Review Committee and is the culmination of Cassandra's summer 2013 research at Stony Brook University.

Cassandra is a National Science Foundation - Scholarships for Science, Technology, Engineering, and Mathematics (NSF S-STEM) Scholarship recipient as well as a Collegiate Science Technology Entry program scholar and is planning to utilize her research internship opportunities afforded via programs at Suffolk Community College to transfer to Stony Brook University.

Dr. Candice J. Foley, Principal Investigator and Chair of Suffolk County Community College's National Science Foundation STEM scholarship grant programs (NSF S-STEM), shared that Suffolk County Community College is a nationally recognized leader in providing quality STEM education as well as research and transfer opportunities for its' STEM scholars.

"Cassandra's stellar achievements speak powerfully to the benefits of inter-programmatic collaborations as well as Suffolk County Community College's outstanding faculty and academic programs which when combined with our close regional educational and federal laboratory opportunities have a demonstrable and transformative impact upon our students' lives and careers."

"Since joining CSTEP, Cassie has been involved in all aspects of the program, including representing Suffolk at the CSTEP Student Statewide Conference in 2013. Ms. Nyati epitomizes our CSTEP scholars - a very ambitious, articulate, emerging scientist who is involved in the SCCC community," said Nina Leonhardt

So, just what was Cassie's research about? Dr. Deborah Brown, Cassie's project mentor at Stony Brook University explains.

A thin plasma membrane surrounds each cell in our bodies, providing an interface with other cells and the bloodstream. The plasma membrane contains embedded proteins that maintain cell communication at the correct level by continually adjust the amount of these proteins in the membrane. Certain cell-surface proteins send signals that cause cells to divide. This process is essential for life, but must be tightly regulated, because uncontrolled cell division can lead to cancer. Maintaining the proper level of these proteins on the cell surface is a crucial function of endocytosis. Unfortunately, endocytosis has been hijacked by disease-causing pathogens. These include viruses, bacteria, and bacterial toxins - proteins powerful enough to kill cells that receive even a few molecules of them. All these agents use endocytosis to gain entry into our cells. To be able to control both the good and bad effects of endocytosis, then, we need to understand exactly how it works.

Cassie's project was to search for ways of changing the amount of lipids in the membrane to test a hypothesis that lipids affect the rate of endocytosis. It turned out to be a difficult problem. Cassie got in on the ground floor and after her summer REU internship, the lab built on her work and developed better tools. They now have good evidence to support their model, and are working to manipulate the rate of endocytosis.

"Cassie's project provided the important first step toward our goal," Dr. Brown said.

More information about Suffolk County Community College's NSF S STEM scholarship program may be found at www.sunysuffolk.edu/stem.

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