

LONG ISLAND HIGH SCHOOL STUDENTS SHINE AT NATIONAL BREAST CANCER & ENVIRONMENT CONFERENCE

Seven students sponsored by both the Huntington Breast Cancer Action Coalition's (HBCAC) and Great Neck Breast Cancer Coalition's (GNBCC) "*Students & Scientists Breast Cancer Environment Research Scholarship Program*" received awards of recognition for their scientific poster presentation at the national Breast Cancer Environment Research Program Conference (BCERP) which convened on November 17 – 18, in Cincinnati. The BCERP Program is sponsored by the National Institute of Environmental Health Sciences (NIEHS) and the National Cancer Institute (NCI).

The students from five different Long Island high schools who attended the BCERP conference had also participated in the two breast cancer coalitions' summer research scholarship program at the following prestigious national research facilities which study environmental links to breast cancer: Fox Chase Cancer Center, Stony Brook University, Soto/Sonnenschein Laboratory at Tufts University School of Medicine and the Silent Spring Institute. These exceptional students are: Joshua Solomowitz (Huntington H.S.), Yonatan David (North Shore Hebrew Academy H.S.), Vita Jaspan (Great Neck South H.S.), Melissa Wing (Northport H.S.) and Megan Hansen (Huntington H.S.), Kayla Neville (Commack H.S.) and Jeong Yun (John) Yang (Great Neck South H.S.).

An unprecedented, juried poster award was given to Jeong Yun (John) Yang and Kayla Neville at the BCERP conference titled, "Best Basic Research Poster". What made this award especially exceptional was that the poster presented by the two high school students was chosen over those of prominent national researchers and post doctorate fellows. Their poster titled "*Towards Graphene-Based Imaging and Drug-Delivery Agents for Breast Cancer: Cytotoxicity of Graphene Oxide Nanoribbons in Human Breast Cancer Cell Lines*" addresses the field of nanotechnology and its potential effect on human health. Through HBCAC's and GNBCC's "*Students & Scientists Breast Cancer Environment Research Scholarship Program*", Jeong and Kayla interned at Professor Balaji Sitharaman's Laboratory at the Biomedical Engineering Department at Stony Brook University.

As cited in Jeong's and Kayla's poster abstract, "*Graphene oxide nanoribbons are a type of carbon based nanoparticle that has potential to revolutionize the field of Nano medicine. These nanoparticles are currently being explored for their potential medical applications, such as multi-functional tumor detection and drug delivery agents to quickly diagnose and improve the accuracy and efficiency of drug treatment. Before these nanoribbons can be used as biomedical applications, such as drug delivery and medical imaging contrast agents, and studied further, their cytotoxicity status or toxicity at the cellular level must be known.*"

Professor Balaji Sitharaman states "*Jeong and Kayla were placed in my lab through Great Neck and Huntington Breast Cancer Coalition's Students and Scientists Environmental Research Scholarship Program. Subsequently, they started working on a project that investigated the cellular toxicity of graphene nanoparticles on breast cancer cell lines. This area of research is interesting because it will provide information on the influence of carbon nanoparticles on breast cancer risk, and also could allow the development of imaging and drug-delivery agents. During their time in the lab, they regularly interacted with the lab members to plan for their project. They also completed a thorough, and exhaustive literature review of carbon nanotubes for biomedical applications. Additionally, they completed some preliminary studies on this project. During their entire time, they worked closely with our Postdoctoral Associate Dr. Pramod Avti and graduate student Mr. Sayan Chowdhury. Further, I have regularly interacted with them, and they have always impressed me with their drive and determination to use the knowledge they have gained from their high-school-level courses, and apply that knowledge towards biomedical research. We were impressed with their ability to easily grasp new concepts and/or methods necessary for their work, even though, they have had little exposure to them in their past training. I believe this is a testament to their overall ability to be successful in whatever they sets their mind to do in the future, including translating their current talents to future successes in the field of biomedical engineering. From my interactions with them, they comes across as an exceptionally diligent, hard-working and productive individual. Recently, they presented their research work at the annual Breast Cancer Environmental Research Program Conference, and received the best poster award. Their poster was selected among a large number of posters out-competing Ph.D. students, post-doctoral fellows, and principal investigators. Additionally, they are co-authors on the peer-reviewed publication under-*

preparation based on his research work to be published in 2012.”

“The Students & Scientists program is a very enriching program that gives young scholars rare opportunities to work in research institutions. It not only gave me the best summer experience I've ever had, but also justified and further motivated my passion to conduct research for the betterment of our society.” **Jeong Yang**, a senior at Great Neck South High School

“The BCERP conference was a wonderful opportunity that allowed me to share my summer research with others, and in return gain knowledge through learning about their experiences. I learned so much from interacting with such esteemed scientists, researchers, and advocates.” **Kayla Neville**, a junior at Commack High School

"The students who participate in the Students & Scientists program learn about environmental links to breast cancer at the ground level in state of the art laboratories. Their invaluable, newly acquired knowledge assures us that there will be a next generation of researchers and advocates focusing on breast cancer prevention." **Laura Weinberg**, president of Great Neck Breast Cancer Coalition.

"The partnerships formed between the high school teachers, science administrators, and the Coalitions provide an unprecedented opportunity for Long Island students to witness the state of the science at laboratories around the United States. We will count on these young folks to be the generation that moves environmental health research into action." **Karen Joy Miller**, president of Huntington Breast Cancer Action Coalition, Inc.

"The Students and Scientists Environmental Research Scholarship Program equips young people with a solid knowledge base, providing a forum for high school students to integrate their discoveries into their personal lives, as well as educating the community about environmental factors impacting public health. Our students demonstrate their commitment and abilities in countless ways. Most recently, at the BCERP National Conference, held in Cincinnati, Ohio, not only did our students cover important research, but truly understood the science and were able to articulate in a sophisticated, intelligible direction. Their contributions of value were most favorably received by the science community. Personally, I could not be more proud of the dedication and accomplishments of the all of the students who have graduated from our program of prestige." **Lisa Kratter**, HBCAC Students & Scientists Program Coordinator.

"The BCERP conference was truly an eye-opening experience for me. I was so fortunate to have this opportunity to meet scientists who are on the cutting-edge of disease prevention research. Much of the data presented will change the world and hopefully help mankind's fight against cancer." **Josh Solomowitz**, a junior at Huntington High School.

“The BCERP National Conference was one of the most memorable experiences in my entire high school career. It was inspiring to see highly acclaimed scientists and advocates presenting their work and it truly was eye opening. The poster session was one of the highlights of this event because we got to meet and talk with these scientists about their research on a more personal level. It also gave us the opportunity to communicate with the scientists and advocates about our projects and the work we accomplished during our internship. This is an experience that I will always remember.” **Melissa Wing**, a junior at Northport High School

"The Students & Scientists Program offered me an incredible opportunity to learn about endocrine disrupting chemicals in our environment and their links to breast cancer. I got to spend two weeks at a leading laboratory at Tufts University School of Medicine and learned more than I thought was possible in this short amount of time. It was a life changing experience participating in cutting edge laboratory research.” **Vita Jaspan**, a senior at Great Neck South High School.

*"The BCERP conference really was a great experience for me. It's great to have the opportunity to go to one of these conferences because not only do you gain knowledge about how you can improve your own lifestyle, but you can circulate this knowledge back into your community and make others more aware of how they can live healthier lifestyles. I learned a lot at this conference and I'm already starting to put together something that will increase the awareness of breast cancer in my community among younger groups. First, surveys will be distributed to 7th and 8th graders at the middle school I went to, Finley Middle School, to see how much they know about breast cancer, and then I will present to them the information I learned at this conference, so they know all about breast cancer and how they can take action to prevent themselves from getting it. Imagine how much of a difference this is going to make, all because I attended that conference." **Megan Hansen**, a junior at Huntington High School*

Through the Students and Scientists program, founded by the Great Neck Breast Cancer Coalition (GNBCC) in 2005, both Huntington Breast Cancer Action Coalition and GNBCC have collectively sponsored 31 students during the past seven years at several research facilities. The goal for both breast cancer coalitions is to raise awareness of breast cancer primary prevention and the research that is being conducted on environmental triggers of the disease.