Important Dates

- CARE Conference, March 25-26, 2013
- Living Book Project, April 5, 2013
- WISE Academic Advising, April 10, 2013
- Brookhaven National Lab Day, April 12, 2013
- Admitted Students Days, April 13 and April 20, 2013
- WISE Banquet, April 25, 2013

In This Issue

Director’s Message by Carrie-Ann Miller

Dear WISE Students, Faculty, Community and Corporate Partners:

I want to welcome you to Stony Brook and to the WISE program. By now you are aware of the unique opportunities and support that the WISE program offers to its talented students. I want to thank all of our corporate and community partners because without their support we could not accomplish all that we do.

As many of you know, WISE has worked hard to expand the pipeline for education and outreach for girls down to middle school through our TechPREP and STEM Tech programs. Both of these programs were the result of our collaboration with the Department of Technology and Society and the College of Applied Science and Engineering. Both programs provide valuable opportunities for our WISE students to mentor younger students. This gives the college WISE students the opportunity to share their enthusiasm for their studies and but helps to solidify their knowledge.

We have joined forces with several local non-for-profits, school districts, the Suffolk County Girl Scouts and more to provide exciting programs. Through our continued funding from the Motorola Solutions Foundation we have been able to provide an educationally progressive program that focuses on STEM education that begins in 6th grade and continues through high school, and into college. Our outcome data collected over a four year period is positive in that it demonstrates an increase in knowledge of STEM careers, fields and desire to study them in college.

There are currently over 200 students enrolled in WISE. Our newest class, Cohort 19, started this fall with 55 students. Twenty-four of the students are enrolled in the College of Arts and Sciences, 24 in the College of Engineering and Applied Sciences and 7 are SOMAS students.

We have ten Junior Mentors that are supervised by Melissa Auerbach, our CAS Graduate Student, who is working on her PhD in Psychology. WISE 187 is being organized and coordinated by our very own WISE graduate Kristine Horvat.

Jacquelyn Gatta is our School of Social Welfare Intern and the Coordinator of both STEM Tech and Tech PREP. Current WISE student Jacqui Petrie is an AmeriCorps. Volunteer and is also the Assistant Coordinator and Mentor of our STEM Tech Program.

Sahar Bilal, is the Assistant Coordinator of TechPREP. Between the two programs we have hired 18 additional WISE College mentors. WISE 101 Instructors, Dr. Lyman, Mary Bernero, Doreen Aveni and Kira Schulthesis (former WISE student) have all done a

WISE Advising by Doreen Aveni

Do you have questions about your courses? Do you want help finding research opportunities? Do you want to know what requirements are needed for graduation? For these and other important academic questions, come see me! I am available for one-on-one advising appointments as needed. Have a quick question and want to pop in? I am glad to accommodate walk-ins! My office is in Engineering, room 220.

Stop by for any reason. Even if you do not have a problem or need advice, come by to say hello!

In addition to one-on-one advising, I also plan large academic advising events where we get key faculty together to answer all of your academic questions. These events are mandatory for first year WISE students, but all are welcome! Next event: April 10 in GLS Center!
Research Experiences of WISE Women

Rachel Salatka, WISE Alum, graduated in 2010: I am currently working as a Ph.D. student in the Genetics program at Stony Brook University. My research centers around DNA repair in the mitochondria. Only recently was it established that mitochondria contain multiple pathways for repair of their DNA, although not as many as in the nucleus. The pathway I study is base excision repair (BER). Specifically I am interested in looking at BER in mitochondria with respect to aging. It has been shown in patients with neuro-degenerative disorders, such as Parkinson’s or Huntington’s, that proteins necessary for BER are not functioning properly in the mitochondria. I use a neuronal cell culture to mimic an aging phenotype to study changes in BER within the mitochondria.

Souci Louis (Class of 2013): This summer I participated in the TechPREP program as a Sister Mentor. I enjoyed inspiring young females to explore science by relating fundamental scientific principles to real life situations. I also had the pleasure of interning at the Staten Island Zoo this summer. I had the opportunity to work alongside zookeepers and the zoo’s veterinarian to observe and perform routine procedures in zoo animal care. This strengthened my interest in pursuing a career in veterinary medicine.

Solange Abbate, WISE Alum, graduated in 2009: I have been working as a contractor in a global biotech group within a Fortune 500 company located in Cincinnati working in upstream research in the field of skin and hair biology. My role in this organization is in the field of assay development. When these are developed, our hope is that we can later use these assays to design new and better products like shampoos and skin creams within our beauty department.

Gayatri Setia (Class of 2013): I spent my summer as a Physical Science Technician in a lab at the United States Department of Agriculture. This was my fourth summer working at the USDA but my first summer in Dr. Bosoon Park's lab. The largest part of Dr. Park's research is very new technology in the form of the hyperspectral imaging microscope, which gives both spatial and spectral information of a sample, and its implications in rapid detection of pathogens in a food sample. The aim of hyperspectral imaging, especially in the food industry, is to achieve single-cell detection. My project compared three different methods of detection of Salmonella--agar tests, PCR and hyperspectral imaging--to compare clarity, accuracy and timeliness, as well as ease of use. I wrote a paper on this, and, with further data collection, I may be an author in the publication of this research.

Olivia Basaly, WISE Alum, graduated in 2012: Right before graduation, I was offered a full-time position at North Shore-LIJ Health System as a Development Associate, working directly under the President of the health care system. I work closely with the President on coordinating and participating in strategic development planning. I also run all the events the Health Care System sponsors, as well as working closely with the Board of Trustees on expanding the health care system. NSLIJ has also offered to pay for my MBA, which I plan on starting in the summer of 2013. I am excited that I started on such a great path in the health care administrative field and I am so lucky to have such senior people willing to help me get to the top of the senior leadership ladder.

Neha Kinariwalla (Class of 2014): This summer I studied in Romanfana National Park, Madagascar through Stonybrook’s Study Abroad Program. For five weeks I slept in a tent, went hiking in a rainforest and conducted research on infectious disease, with a focus of diarrheal parasitic diseases. When I returned I interned for ICTE, a nonprofit organization working to conserve the rainforests of Madagascar. Not only was it an eye opening experience, it was a once in a lifetime opportunity. (Read more about Neha’s experiences on page 4!)

WISE High School Goings-On by Sharon Pavulaan

In the spirit of achieving some of the goals of High School WISE, seniors from Riverhead high school worked with recent graduate Gwen Phillips (SBU ’12, M.P.H.) on an anti-bullying campaign in their high school that culminated in the students’ participating in a fundraising campaign and Anti-bullying presentation at their high school last Spring. This year’s seniors are revamping an exhibit at the Long Island Science Center in Riverhead, and some have joined the Centers’ Youth Board to provide the non-profit with a fun and tech-savvy energy while learning how to serve as a board member. WISE senior Claire Angell is leader for our high school student group in discussions of Rebecca Skloot’s novel The Immortal Life of Henrietta Lacks. The book was selected and coincides with required reading for Advanced Placement Biology students because of the issues of socio-economics, race, gender, and medical ethics. Our high school students have enjoyed the novel and plan to participate in the April 5th workshop on campus, which is planned to be in the first in a

WISE: The Right Choice by Jaspreet Benipal

The WISE program has helped me greatly. In the spirit of achieving some of the goals of High School WISE, seniors from Riverhead high school worked with recent graduate Gwen Phillips (SBU ’12, M.P.H.) on an anti-bullying campaign in their high school that culminated in the students’ participating in a fundraising campaign and Anti-bullying presentation at their high school last Spring. This year’s seniors are revamping an exhibit at the Long Island Science Center in Riverhead, and some have joined the Centers’ Youth Board to provide the non-profit with a fun and tech-savvy energy while learning how to serve as a board member. WISE senior Claire Angell is leader for our high school student group in discussions of Rebecca Skloot’s novel The Immortal Life of Henrietta Lacks. The book was selected and coincides with required reading for Advanced Placement Biology students because of the issues of socio-economics, race, gender, and medical ethics.

Moreover, the academic advising available to the WISE girls has helped me be successful in my undergraduate studies by allowing me to speak to professors about classes. The events that WISE hosts have also allowed me to network with others and learn about the professions in medicine, like the Women in STEM panel event.

Furthermore, I greatly enjoyed the WISE 242 class. My interest in this topic began in high school when I participated in a program called Future Women in Science at York College, for girls interested in science.

Lastly, WISE has given me the wonderful opportunity of serving as a TechPREP mentor. I really enjoy working with the girls. This job gave me a feeling of satisfaction in that I was able to instill confidence in girls to be determined and pursue their goals. As it is known that the math, science, and engineering fields are predominantly comprised of men, I enjoy helping the girls pursue their interests in math, science, and engineering bringing us one step in breaking the barrier.
Fun With Engineering by Doreen Aveni

January 10, 2013 was a truly fun day! The WISE Program hosted Fun With Engineering for middle and high school students and their teachers. The aim of the program, funded by a grant from Motorola Solutions, was to introduce students to the possibilities of STEM and how exciting STEM related careers can be! 125 students from Suffolk, Nassau and NYC were in attendance. The day started with a welcome by Dr. Charles Robbins, Vice Provost for Undergraduate Education and Dean of the Undergraduate Colleges, followed by a talk by Judy Berhannan, Dean of Admissions. After the talks, students were broken out into small groups to embark on tours of research laboratories on campus. Students got to see two different labs, ranging from work with lasers to jet engines, biomedical engineering to rapid prototyping, biofuels and atomic force microscopes.

When everyone got back from their tours, lunch was served, followed by a panel of professional women working in STEM careers and WISE alum who offered academic and career advice. After the inspiring panel presentation, students were presented with ordinary materials to make extraordinary things! Working with toothbrushes and small motors, students created “Bristelbots”, which scooted around powered by a small lithium battery. Foam supermarket trays and drinking straws provided the building blocks for balloon powered race cars. Winners of the balloon powered car races won prizes! Each activity demonstrated the design process and concepts of applied science.

Lab Tour: Dan Dedora talks to students about neuroimaging and 3d printing

Teachers in attendance received professional development resources to bring STEM activities into their classrooms.

Thanks to all who participated and volunteered!

Panel: Professional Women and WISE Alum talk about their career paths in STEM

Hands-On Activities: Bristelbots were made with toothbrushes and vibrational motors

Director’s Message (continued from p. 1)

spectacular job! Our Student Leadership Council, with the leadership of this year’s e-board has provided excellent programs including research 101, professional lectures and more! In addition, WISE is partnering with the School of Medicine and Several High Schools to hold the first annual “Seeds of Possibilities” conference. This all day conference will feature a discussion and creative expression of the Rebecca Skloots novel “The Immortal Life of Henrietta Lacks”. We are seeking professionals and students to participate in what is sure to be an informative interdisciplinary program. This program will take place on April 5th 2013 in the Wang Center.

The WISE Banquet is going to be held on April 25, 2013 at Window’s on the Lake. This year the theme is “A WISE Garden Party.”

Please come into the office at anytime to meet with me and the WISE staff. I have information regarding research, internships and scholarships available.

Good luck with your studies and remember to get involved in the campus community and most of all have fun!

WISE HS (cont. from p. 2) series referred to as the “Living Book Project”. Our West Hampton Beach students have been working with Ph.D. candidate Rebecca Kulp at Stony Brook Southampton for much of the current school year. The campus is closer in proximity to the high school and Rebecca is an outstanding new WISE mentor and Stony Brook student, who had the opportunity to experience science through outreach experiences in high school. Because of those experiences, she chose to pursue her current field of study and she would like to give high school students the same opportunity to fall in love with science early on. We are lucky to have such a passionate and engaging young mentor become involved with the WISE family.
Why I Travel—My Experiences in Madagascar and India by Neha Kinariwalla

Last summer I studied abroad in Madagascar through Stony Brook University’s Study Abroad Program. The courses included three biological anthropology courses and was based in Romanafana National Park, a park founded by Dr. Patricia Wright. There is something extraordinary about visiting a vastly different country during a study abroad. To be shocked by the culture and truly amazed by things you have never seen is something priceless to experience while we’re young. We went on hikes everyday through the rainforest, snorkeled through the Mozambique Channel and trekked through deserts on even more hikes. I really had very little experience in any of these adventures but that’s what made my trip even more of a learning experience. I was able to go on a trip that I never imagined I would be able to ever take and pushed into tasks that I never thought I would be able to complete. A study abroad experience should be something that really expands horizons—literally and mentally. When I came back that summer I interned with ICTE—an NGO that works for the protection of Madagascar’s environment. I really was interested in seeing how NGOs work in the paper work side, not just the work that they conduct. I wrote a thesis on the health of the Malagasy people near the institute. I noticed that practically none of the children had footwear of any sort. I decided I wanted to distribute shoes to these kids and sent emails after emails to NGOs to ask if they could supply shoes to these children. I finally received a response from Soles4Souls, a Texas based nonprofit. After completing large amounts of paperwork, 273 pairs of shoes were shipped to Madagascar and distributed to them in time for Christmas!

As I write this, I’m at the Mumbai airport flying back to Ahmedabad, India. I came here alone this winter to volunteer with the Gandhi Ashram in Ahmedabad through a NGO called Manav Sadhna. I worked on many different projects, helping in any way I could. There’s a certain beauty associated with volunteering just for the sake of volunteering. It detaches you from any selfish motive and really allows you to discover who and what you are passionate about. In my case it is children. I would go out to the slums or schools during the children’s recess and just play games and talk to them. The most wonderful feeling was the point where I would be anywhere within the Sabarmati area and children would shout “Hi Nehadidii!” (Didi is elder sister in Gujarati) and come running to hug me. I had visited some of their houses in the slum areas and talked to their parents about the importance of education. I think that even touching just one life is an accomplishment. Volunteering or doing any charity work isn’t about numbers. It’s about the depth in which you can reach into someone and cause a change within them. To see someone that happy just to be in your presence is an incredibly heartwarming experience.

I do hope that other WISE students embark on some journeys of their own! To travel now is truly priceless.

Some of the author’s new friends