High School WISE

SNAPSHOT!

SISTER Program

Studying Abroad in 2009. The students will work to be Citi Winter Interns for SWE (Society of Women Engineers) students, and 3 School of Engineering (WSE 242) this fall. Mary Bernero is currently instructing one of our WISE ITS 101 classes and will instruct WISE 242 this spring. Jennifer Dellaposta, Christine Szaraz and Harvey Lyman are also instructing WISE sections of ITS 101.

In addition, I would like to welcome our two new graduate students, Faneza Hoossain is a second year student in the School of Social Welfare and Lada Dimitrova is a fourth year PhD candidate studying Geosciences. Faneza will work with the Student Leadership Council to design and implement programs throughout the year. Lada will work with me to implement the Citi Winter Internship Program and assist Sharon and Mary with WISE 242.

I am writing to you with very exciting news for this year. The University has received one of the Innovation Generation Grants from the Motorola Foundation in the amount of fifty thousand dollars. TechPrep is a multi-track program targeting 6th grade female students, parents and school administrators. The consortium of SBU continued on page 3

Events by Doreen Aveni

On September 25, University officials celebrated the opening of the new ITS Undergraduate College Community Center. This new gathering place houses craft space, lounge areas with comfy seating, a large conference room and classroom space. Look for future WISE programming to be held here!

On October 22, WISE will take part in Undergraduate Commons Day. WISE students are invited to attend a special breakfast and meet the author of the first year reading.

On November 5, WISE will be holding our Academic Advising Session in the Wang Center starting at 12:30. Enjoy lunch while preparing next semester’s schedule and chatting with faculty advisors from key departments on campus.

Student Leadership Council Events
10/2 E-Board Meeting
10/8 General Body Meeting 7 PM, Gray
10/12 Baking Event in Gray
10/13 Bake Sale HSC 9 AM - 8 PM
10/16 WISE & Honors Scavenger Hunt, 6-8 PM
10/17 Homecoming Expo 7-9PM
10/29 Research 101, 12:50-2:10, Wang Center
10/31 Karaoke & Pumpkin Carving 6-10 PM, SAC
11/9 Baking Event in Gray
11/10 Bake Sale HSC 8:30 AM - 8 PM
11/12 Potluck Dinner 7-9 PM Gray Lounge
11/19 Game Night 7-10 PM

WISE Meeting Dates
10/23 WISE Working Group Meeting, 10 AM
10/30 Friends of WISE Board Meeting, 3:30 PM
10/30 TechPREP Advisory Board Meeting, 5:30 PM
11/12 COOP Meeting, 10 AM

Check our website for important upcoming events and announcements!
What We Did Last Summer . . .

Rukhsana Rangwala: This summer I had the privilege and the pleasure to be part of the Jackson Laboratory Summer Student Program in Bar Harbor, Maine. This opportunity helped me gain the knowledge, learn the techniques and develop the understanding that drives science forward. With the assistance and guidance of the highly accredited scientists of the Jackson Laboratory, I worked to identify the gene underlying albuminuria, a type of kidney disease, in a strain of mice. Participating in this program has exposed me to the hard work, dedication and passion that research entails, which has in turn further embedded these qualities in me. Staying in Maine for this program has been an amazing experience in itself. I had the opportunity to participate in activities such as hiking, sea-kayaking and whale watching, which has opened me up to new experiences. I also tried lobster for the very first time and although it didn’t tickle my fancy, my summer in Maine would have surely been incomplete without it. The friendships that I have built here have helped me grow as a person and I have surely created memories that will last a lifetime.

Sanhita Reddy: Somewhere inside me, I have an undying itch to become a writer— and this summer I got to be one, at an internship with the health department at Family Circle magazine. Administrative tasks aside (a rite of passage for every intern), I got perhaps the most hands-on experience that a budding journalist could ask for: I was able to come up with ideas for pitches, write outlines for the head editors to review, conduct interviews, help with layout, and write (ah, yes!) pieces for the magazine. Look for my name in the fall issues of the magazine! Contrary to popular opinion, being an intern can be the best experience a college student can ask for: you not only get a feel for the career you are considering on entering, but you also get to learn what it feels like to have an actual (9-5) job. By the end of July, my stint was up, but the things I’ve learned (like how to be a good questioner, ways to keep track of information for fact-checking) will remain forever. The New Yorker, here I come!

Esther Kwak: I participated in a drug delivery project at Professor Chu and Hsiao’s lab of the chemistry department. I have been a part of this project from its early stages and thus have been involved with most of the nitty gritty lab work. To see this project gain more momentum from its supporters and finally step out little by little into the industry has therefore been an extremely gratifying experience.

Deena Ghoul: This summer I worked in the Medical Research Department at Brookhaven National Laboratory. I received my funding this summer from the Batelle Summer Research Fellowship to work with Dr. Louis Peña, conducting tissue engineering research. The ultimate goal of this research is to design a loco-regional drug delivery system (a bandage) coated with synthetic growth factors bound to heparin that accelerates the wound healing process. The project that I worked on focused on the binding affinity and rate of release of certain peptides (synthetic growth factors) that mimic the heparin binding domain of bFGF (basic fibroblast growth factor), a naturally occurring growth factor that facilitates the healing of wounded tissue. The peptides were tagged with fluorescein and bound to sily-heparin on a polystyrene plate, then I measured the fluorescence intensity of the wells in the plate to determine how much peptide was remaining after a rinse. This measurement gives us the opportunity to observe how well the peptide sticks to the heparin, and how the varying sequences of peptide change this binding affinity. Determining this release rate is important because the design of this bandage depends on how quickly the heparin binding domain of the growth factor comes off of the bandage and onto the wound— varying both the speed and efficiency of recovery. This research can greatly help all types of patients in a clinical setting who have less than optimal healing rates of external injuries, and it can contribute a good deal to the field of medical research as a whole. This work was very challenging and rewarding. I learned so much this summer and am sincerely thankful to Dr. Peña for serving as my mentor this summer, Zulema Caball for being so knowledgeable and helpful, and to URECA and Stony Brook for funding this research.

Kristine Horvat: This summer, I worked at Brookhaven National Laboratory with a SU1 internship. I worked with Professor Mahajan on methane hydrate formation and dissociation research. Methane hydrates are found in permafrost and submarine environments at low temperatures and high pressures when water molecules form an icy cage to surround a molecule of each. The ability to control these figures, and in turn, to control their negative effects on global warming, has increased my interest in understanding how these compounds form and dissociate for their energy potential, as well as to control their negative effects on global warming. I have learned a great deal on the applications of chemical engineering and had much hands-on learning. I even was given the opportunity to present my research in front of BNL scientists. This experience as a whole has broadened my knowledge of what an actual job in chemical engineering is like. I absolutely recommend every WISE student to look for an internship; the experience has deepened my interest in the field of science and engineering, and I look forward to the opportunity of future internships.

Jessica Kwong: Over the summer, I had my first research experience. I did research at Columbia University in a dental/biomedical engineering lab. There, we cultured stem cells, tried to differentiate them into different kinds of adult cells, and then tried to identify any corresponding surface markers. I learned a lot in the lab and gained valuable research experience. It was really cool seeing all the stuff I learned from my classes being done right in front of me.

Diana Melo: During the summer, I had the opportunity to work in Dr. Drueckhammer’s lab as part of WISE 487. I learned much and I was very glad that I spent part of my summer working on the research project. I learned that research in synthetic chemistry is very sequential: step 1 leads to step 2, which in turn leads to step 3. For this reason, every step is important, and one may spend a great deal of time in one step before being able to move on. In addition, because the quantities I was working with were so small, I had to rely less on my senses and more in tests and techniques that would tell me whether I had the desired product. Overall, I realized that research is a process that involves: learning by doing, more failure than success, lots of perseverance, patience and creative thinking. Though many things can go wrong and they often do, the satisfaction and happiness one feels once things do go right and as one expected is truly great.
Studying Abroad in Montpellier, France

by Rose Slupski

Based upon some inquiries I received before and after studying abroad in France, I believe there are a few possible conclusions to explain the “results” of my trip. There is the statistical possibility that I simply did not encounter any members of that legendary subspecies, the tourist-hating French snobs, within the set of people I met. Alternatively, it might be the case that the infamous population has gone extinct (at least in this particular environment), or perhaps there is even sufficient evidence to call into question the validity of that negative stereotype.

Further studies should be conducted with respect to these matters, and, with sufficient funding, I for one would be happy to return to the field to collect data. And by data, I mean a baguette and some Camembert cheese.

This summer, I took a rolling luggage bag, my passport, and four years of high school French (rather rusty after three years of non-use), and set out for Montpellier, France. This city is located in the south of France, or, as the French call it, le Midi; had I not known of its geographic location before I came, it would have still been rather obvious upon my arrival. Ubiquitous terra cotta roof tiles, citizens strolling in breezy clothing, more sun than you would know what to do with (unless you brought along some solar energy panels), and the Mediterranean Sea stretched out along sandy beaches less than an hour away. The weather was consistently beautiful and warm, almost ridiculously so, and the same observations could also be accurately applied to the people themselves. My host family, in particular, was terrific. They did everything within their power to make me feel welcome (to my delight, their powers of cooking were prodigious) and add their insights to my cultural experience.

However, this was an academic program (one of Stony Brook’s own summer study abroad programs), and I was also there to improve my French. Class placement was based upon skill level; students ranged from those new to French to those who taught French in their native countries. Les cours in the morning were followed every other day by les ateliers, our afternoon workshops. For my particular set of classes, I reviewed grammar, added to my French lexicon, tongue-twisted my way through phonetics and pronunciation (once by means of a song titled “Eat Tomatoes, My Love”), and tried to make my expression orale comprehensible. Outside of the classroom, each spoken interaction presented a mini course in comprehension and expression. Apparently, I am not very good at ordering cheese sandwiches (un sandwich au fromage). Needless to say, my host family and I played many “games” of charades (and also a game of Connect-Four...you really need to watch out for those clever French host mothers!). However, as mentioned previously, everyone was quite patient and friendly, from strangers on the tram to the mayor of Montpellier herself, who held a special reception for our program.

Then there were the excursions and activities. There was a visit to the city of Avignon in Provence, with its famous bridge and papal palace: a trip to the Cathedral of Saint William of Gellone (and, for some, a swim in the river nearby); a workshop on traditional regional dances (for which some of the local beaux garçons gentils were recruited to be partners for us lovely ladies); and several dégustations (tastings) of regional delicacies that were capped by a final wine and cheese tasting and tutorial.

And Montpellier itself? They call it a ville où le soleil ne se couche jamais (the city where the sun never sets). After four weeks of sun, fun, and French, I decided not to say “Adieu,” but “Au revoir.” Until we meet again, mon ami, my friend.

For more info on study abroad opportunities, please visit www.stonybrook.edu/studyabroad

Who's Who in the WISE Office

Pictured (l-r): Laura Gurick, WISE student & TechPREP Coordinator; Sharon Pavulaan, WISE High School Coordinator; Carrie-Ann Miller, Director of WISE; and Doreen Aveni, WISE Advisor

Director's Message (continued from page 1)

programs includes The Liberty Partnerships, OPLITE, CSTEP and WISE. We will be hiring 5 new college mentors for our Sisters in Science, Technology, Engineering and Research (SISTER) program. Laura Gurick will be the administrative assistant for this program. Please read ahead to hear more about this exciting new program.

This past summer, Paul Siegel and I started a group called the Coalition of Outreach and Educations Programs at Stony Brook and BNL (COOP). The group’s goal is to improve communication and to provide networking opportunities for our high school programs. A Blackboard group was set up to enhance communications. The actual group has met twice. Already a new BEST Robotics Team has taken off and will participate in the Northeast region competition this fall.

In addition to our already terrific program we have added new ways of communicating with one another. We set up a Facebook account, Blackboard account and a new blog site for WISE. We have many wonderful social and educational programs this year. We are all looking forward to seeing each other and working together to further the studies and careers of Women in Science and Engineering. Have a great year!

Sincerely, Carrie-Ann Miller
SISTER Program by Laura Gurick

It is with much pride and pleasure that I announce the formation of a newly developed mentoring program called Sisters in Science, Technology, Engineering, and Research (SISTER). SISTER mentors will act as role models to middle and high school girls with a focus on underserved school districts on Long Island. The program is designed as a way to share our love and enthusiasm of science, technology, engineering, and math (STEM) fields with young women that might not normally have the opportunity to discuss and explore such interests and curiosities.

We are currently in the process of hiring five WISE students as mentors for the SISTER program. Their responsibilities will lie in a few established middle and high school outreach initiatives. This fall we are looking to visit a few local high schools to give informal presentations that will include career discussions, mini-labs and fun hands-on activities. The visits will be a continuation of the spring 2008 program started through a generous grant from the Long Island Fund for Women and Girls.

The most recent and exciting news for this upcoming year is the awarded Innovation Generation Grant from the Motorola Foundation, which will be used to implement a program called TechPREP. Through TechPREP, a cohort of 6th, 7th, and 8th grade young women will be introduced to the practical (and fun!) aspects of computing through a series of Saturday programs starting in March and continuing into a two week summer day camp in 2009. The goal of TechPREP is to address the misconception amongst students, parents, and guidance counselors that Information Technology (IT) is no longer a viable career path for students; as well as the lack of females and underrepresented minorities pursuing IT related majors and industrial careers. The SISTER mentors will be assisting Dr. Lori Scarlatos of the Department of Technology and Society with the curriculum for this program while supporting the girls both socially and educationally as they begin their technology exploration.

I couldn’t be more excited about getting the SISTER mentoring program underway! I truly believe that we will be able to make a difference early on in the education of young girls; to just make them aware of the opportunities that are open to them with a little hard work and perseverance. These programs will give young women the extra confidence boost and support to look into and succeed in STEM fields.

Snapshot!

Seen here are WISE students forming an impromptu photo op when they all found themselves in the WISE office one day! Pictured, Ir. top row: Stacey Assael, Veronica Scorcia, Jackie Giuliano, Jesil Pazhayampallil, Binsy Kuriakose; bottom row: Karin Wang and Kimberley Tomlinson

High School WISE by Sharon Pavulaan

WISE has as a goal to bridge links between our high school and undergraduate students, Stony Brook faculty and staff, local community groups, employers and professional organizations. These bridges give our students the opportunity to work with members of the greater academic and professional communities.

This past summer, four high school WISE students participated in the Flax Pond Summer Institute, an intensive week-long research program that took place at the Flax Pond Lab and surrounding salt marsh areas. Students worked side-by-side with scientists to gather information on the marsh and to learn about the importance of estuarine ecosystems.

WISE High School students will also participate in Brookhaven National Laboratory’s Open Space Stewardship Program (OSSP). Many local school districts participate in the program and this past summer I spent time at BNL working with other teachers to learn how to incorporate stewardship activities into curriculum. The goal for WISE is to help survey the Ashley Schiff Park Preserve — an area on the Stony Brook campus that is designated as “forever wild”— to create a database of native and invasive species of plants, insects, trees and animals.