On Tuesday, July 16, 2013, 20 CSTEP student research interns presented posters they designed based on the research conducted under the mentorship of UB faculty members. Their faculty-supervised research occurred over the course of our intensive 8-week CSTEP Summer Research Program. In addition, the summer interns, from STEM and allied health majors at UB, attended a research methods seminar, workshops with topics such as graduate school and ethics, and took tours of Roswell Park Cancer Institute and Hauptman-Woodward Medical Research Institute, Inc. They also attended numerous cultural events in the Buffalo community.

The CSTEP Summer Research Program fosters a deeper understanding of underrepresented students in the STEM, allied health, and licensed fields. Our summer interns had the privilege of attaining an insight into the culture of research, enabling them to network with graduate and doctoral students, and learn about the importance of attending graduate school. As a result of their participation in the summer program, many CSTEP students have gone on to successful academic and professional careers. Story continued on page 4.
Jonathan Ahmedu, Mechanical and Aerospace Engineering

Summer Mentor: Dr. Kemper Lewis, Professor and NYSCEDII Director  
Project: Developing Innovative, Collaborative, and Interactive K-12 Science and Engineering Experiments  
Internship Placement: New York State Center for Engineering Design and Industrial Innovation Lab

I applied to the CSTEP Summer Research Program because I challenged myself to try something new and wanted to prepare for graduate school. The CSTEP Summer Research Program helped me build relationships with faculty members within the engineering department and taught me how to work well with students of various personalities and diverse backgrounds.

Before the summer research program, I had no research experience. My research topic focused on improving K-12 science and engineering education in the United States by using innovative and collaborative experiments. A creative concept generation technique called “Digital Collaborative Sketching” was developed and integrated into different experiments. The purpose of my research was to provide documentation and quick resources that grade school teachers could use to effectively teach students in science and engineering.

Research is a great opportunity to apply what you learn in class to actual world problems. It gives you an avenue to discover new and interesting facts. Feel free to explore the world of research, it also builds character.

FUTURE PLANS: To pursue a master’s degree in engineering design.

Summar Amin, Pre-Dental/Biomedical Sciences

Summer Mentor: Dr. Ashu Sharma, Assistant Professor  
Project: Genetically Engineered Oral Vaccines against Periodontitis (Gum Disease): Proof-of-Concept in Mice  
Internship Placement: UB School of Dental Medicine, Department of Oral Biology

I joined the summer research program because I wanted to enhance my lab skills and learn about the environment of working in a lab. Dental students spend a lot of time in labs. So, I thought this program would expose me to the hard work and dedication it requires. The program was what I expected and so much more. I learned technical skills, as well as oral and written communication skills through the workshops provided during the course of the program.

My project was focused on genetically engineered oral vaccines against periodontitis (gum disease). Although I had no prior research experience, Dr. Sharma was accommodating and understanding. Everyone should do research. No matter the discipline you are interested in, research will expand your understanding of the field and teach you to think critically. This is essential when entering the work field.

Before this program, I had doubts about applying to dental school because I thought I had no chance of gaining admission. After networking with many professionals through this program, I now know that I am an even stronger dental school candidate now that I have engaged in research.

FUTURE PLANS: To gain admission to dental school and continue engaging in research pertaining to oral biology.
Julia Newman, Pre-Med/Biological Sciences

Summer Mentor: Dr. Michael Yu, Assistant Professor  
Project: Biological Functions of Protein Methylation  
Research Site: Department of Biological Sciences

The CSTEP Summer Research Program was more than I expected. Although it is intense and demanding I learned a lot from working in the labs, was given the opportunity to network with prestigious professionals and benefited from the Friday workshops. The research program has given me many skills and resources to help me achieve my immediate and future career goals.

My research involved the role of post-translational modifications on protein - protein interactions. I focused on how Arginine Methylation affects protein - protein interactions of the TRAMP complex within a cells nucleus. Prior to the summer program I had no research experience. However, I was a member of 2013 Campus Health Educator (CHE), a semester-long service learning component of CSTEP.

The summer research program solidified my plans to attend medical school instead of attaining my Master’s in Biology. After my CSTEP research experience, I would love to conduct research as a medical professional.

I highly recommend the CSTEP Summer Research Program to undergraduates. It is an amazing opportunity into the world of research and a chance for them to determine whether research is the career path they wish to choose.

FUTURE PLANS: To attend medical school and become an OBGYN.

Greg Phattanachitchon, Civil Engineering

Summer Mentor: Dr. Sabanayagam Thevanayagam, Associate Professor  
Project: Cone Penetration Testing  
Internship Placement: Department of Civil Engineering

I applied to the CSTEP Summer Research Program because I wanted to gain research experience. The program gave me more than this. I never thought I would have to present my research to an audience. This obligation enabled me to turn my public speaking weakness into a strength. I learned how to give an excellent presentation and become more confident than I had ever been.

My research entailed an earthquake-based project that focused on developing a new soil liquefaction mitigation technique that can be implemented under existing buildings and bridges. The name of this technique is “Induced Partial Saturation through Transport and Reactivity.” The idea of this technique is to generate gas bubbles in the pores of fully saturated soil by injecting a chemical solution. The gas bubbles help reduce pore water pressure that occurs during earthquake. This then helps prevent soil from being liquefied.

FUTURE PLANS: Attending graduate school immediately after undergrad or working and then pursuing a master’s degree.
Winners selected at this year’s Symposium, based on a competition of their poster and presentation quality judged by UB faculty and doctoral students, are automatically given a slot to present their research and compete at the 22nd Annual Statewide CSTEP Student Conference held at the Sagamore Resort on Lake George, NY, in Spring 2014.

This year’s Top 5 winners were:

1. **Muhammad Khan**, Mechanical and Aerospace Engineering  
   Mentor: Dr. Vankat Krovi  
   Summer Project: Simulation Based Design of Exoskeletons

2. **James Lopez**, Psychology  
   Mentor: Dr. Greg Fabiano  
   Summer Project: Investigation of Maternal Education Level and its Relationship with Various Parenting Strategies

3. **Summar Amin**, Pre-Dental/Biomedical Sciences  
   Mentor: Dr. Ashu Sharma  
   Summer Project: Genetically Engineered Oral Vaccines against Periodontitis [Gum Disease]: Proof-of-Concept in Mice

4. **Christ Ange Katche**, Pre-Pharmacy/Pharmaceutical Sciences  
   Mentor: Dr. Rajendra Rajnarayan  
   Summer Project: Towards the Discovery of Anti-Cancer Agents Targeting Estrogen Receptor-Breast Cancer Susceptibility Protein Interaction

5. **John Habert**, Pre-Med/Biological Sciences  
   Mentor: Dr. Hilliard Kutscher, Dr. Folarin Erogbogbo  
   Summer Project: Size Control of PLGA Nanoparticles Formed by an Emulsion/Evaporation Technique

We would also like to give a very warm “Thank You!” to our distinguished judges for your tremendous participation during the Symposium:

- Mr. Bill Grunert
- Dr. Nadine James
- Dr. James Jensen
- Dr. Hilliard Kutsher
- Dr. Paul Marrone
- Mr. Adonis R. Pimenta-Penalver
- Dr. Jessica Reynolds
- Mr. Lavone Rudolph
- Mr. Paul Saunders
- Dr. Munish Sharma
- Dr. Uttam Singisetti
- Mr. Sutter Kiplangat
- Dr. Mark T. Swihart
- Mr. Jarrett Coppin

The 2013 summer interns will also participate in the **CSTEP Research Luncheons**, held during the academic year. During these luncheons, several summer interns will present their research to other CSTEP students, with time allotted for questions and answers. The anticipated dates for the Fall 2013 Research Luncheon Series are **Friday, November 8th** and **Friday, December 6th** in 567 Capen Hall.

The applications for next year’s Summer Research Program will be available on December 6th, 2013.

Next year’s CSTEP Summer Research Program is slated for: **June 4th – July 30th, 2014**
This past Spring 2013 semester, 16 students and staff from the UB CSTEP Program participated in the 21st Annual CSTEP Statewide Conference entitled "Journeys Beyond Excellence", held on April 12-14, 2013 at The Sagamore Resort on Lake George. Nearly 600 CSTEP students and staff from 45 colleges and universities across New York State were present. The three-day conference exposed students to motivational, academic and career-related workshops, dynamic speakers and a graduate and opportunities fair.

During the conference, 117 students competed in the Research Poster Competition in natural sciences, physical sciences, technology, social sciences and human services categories demonstrating research conducted via the CSTEP Research Program. Khalif Osson and Keith Dolcy presented their research via oral presentation in the Natural and Physical Sciences categories, respectively. Our poster presenters included: Price Obot and Nury Cuca Cruz in the Psychology category, Theresa Yera, Melina Bodwin, and Barina Banuna in the Natural Sciences category, and Sharece Blake in the Engineering category. UB CSTEP was extremely proud when Theresa Yera was awarded 1st Place in her category. All presenters received a medal for their participation in the research competition.

The conference ended with an insightful keynote address by Dr. Mark Hernandez, Environmental Engineer and faculty member of the Department of Civil, Environmental, and Architectural Engineering at the University of Colorado. Dr. Hernandez also directs the Colorado Diversity Initiative. He addressed the importance of CSTEP’s mission - to increase the number of talented underrepresented students in STEM and the licensed professions. He discussed the differences between mentors and coaches, the core values of a person and his experience as a STEM student and professional. He also discussed the challenges and realities that students must face as they strive for excellence in academics and the importance of establishing a personal mission.
Erica Martinez, J.D.

**DEGREE(S) YEAR OF GRADUATION:** 2011 - Law, Juris Doctorate  
**ORIGINAL CITY:** Brooklyn, NY  
**CURRENT CITY:** New York, NY  
**CURRENT JOB POSITION:** Global Investigations - Associate, JPMorgan Chase  
**COMMUNITY INVOLVEMENT:** I donate food and prepare meals for the inhabitants of a local shelter.  
**ORGANIZATIONS AND AFFILIATIONS:** Currently, I am working with the Center for Arts Education; a nonprofit organization that provides arts education to children in the tri-state area and provides career advise and placement to high school students in prominent art organizations. I hope to make the transition to board member soon.  
**ONE FOND MEMORY OF UB AND/OR CSTEP:** Becoming Treasurer of the UB Black Student Union (BSU).  
**WHO YOU WOULD LIKE TO THANK:** Sandy Curtis was extremely helpful in the law school application process and giving general advise on what to expect.

Ledum Nordee, Engineer

**DEGREE(S) YEAR OF GRADUATION:** Electrical Engineering, B.S. 2008  
**ORIGINAL CITY:** New York, NY  
**CURRENT CITY:** Waltham, MA  
**CURRENT JOB POSITION:** Power System Engineer, Eaton Corporation  
**COMMUNITY INVOLVEMENT:** Active particiapnt of United Way Corporate Partnership  
**ORGANIZATIONS AND AFFILIATIONS:** National Society of Black Engineers (NSBE) Alumni, IEEE  
**ONE FOND MEMORY OF UB AND/OR CSTEP:** As a CSTEP undergraduate research scholarship recipient (2007-2008), I was privileged to participate in the many activities setup by CSTEP to enhance academic experiences at UB beyond the classroom. I had the opportunity to get involved for the first time with a focused group of students and faculty who shared a common interest in promoting excellence in the STEM fields and gave students hands-on innovative science projects to work on.  
**WHO YOU WOULD LIKE TO THANK:** Shanna Crump-Owens, for her leadership encouragement and advisory assistance. Patricia Greer and Mary Akuamoah-Boteng for their continuous friendship and patronage. Lastly, I like to thank Dr. Kwang Oh, who served as my research faculty advisor and continues to mentor me through my career in engineering.
GRADUATE ASSISTANT MESSAGE

My name is Jenna Tomasello and I had the great privilege of serving as one of the Graduate Assistants for CSTEP this summer. I recently graduated from SUNY Buffalo State with a B.A. in Philosophy and a minor in Legal Studies. I have made the difficult decision to take the remainder of this semester off in order to focus on my future career and studies, which is anticipated to be a Master's degree in Higher Education.

While a student at Buffalo State, I participated in the Student Support Services program (SSSP), as well as the McNair Scholars program and I am proud to say that my McNair project has been published in an international undergraduate philosophy journal. My success as an undergraduate, due largely in part to the support I received as a SSSP member and McNair Scholar, has fueled my desire to pursue a career in Higher Education. I plan to eventually receive my Ph.D. in either Philosophy or Higher Education with hopes of becoming a professor or a director of a TRIO or College Access program that aims at helping non-traditional or underrepresented college students succeed at school, work, and life in general.

I have thoroughly enjoyed working with each and every one of you over this past Summer and Fall semester. This office is passionate about increasing the educational and career opportunities of talented underrepresented students, so please, maximize your use of this program. Whether you need help applying to graduate school or simply want to talk, CSTEP is an excellent resource that is here to serve you!

Best of luck to you all on your academic endeavors!

Sincerely,
Jenna

CURCA: Funding Your Research
$500 Undergraduate Research Awards

Are you interested in doing research? If so, the Center for Undergraduate Research and Creative Activities (CURCA), $500 undergraduate research awards may be of interest to you.

This research award could be used to purchase new equipment or materials that may be vital in conducting your research. This funding could also be used to cover the cost of covering your attendance to a research conference to present your research.

The Benefits:

• Receiving funding for your research looks good on applications to graduate schools
• This money could be used for materials your lab may not otherwise have access to
• Attending a research conference to present or even to attend can be an enlightening experience
• Applying for this Award is great practice for other grants you may be interested in applying to in the future

Applications are accepted and reviewed throughout the Fall and Spring Semesters. It would a good idea to start working with a research mentor on your application now; the first deadline for applications this Fall semester will be October 2nd, 2013 by 3:00 PM.

For more information, visit http://curca.buffalo.edu/students/funding.php
Thinking About Graduate School?  
Several tips to help you succeed in prepping and applying for graduate school programs

GRADUATE SCHOOL APPLICATION PROCESS

1. Personal Statements
The personal statement presents aspects of your candidacy that cannot be conveyed through GPA or standardized test scores. It tells who you are, what you value, and how well you will be able to handle the pressures of graduate/professional school. The best approach to writing the personal statement is to choose an interesting story to tell. You may write about an event that helped to teach humility, independence, or self-confidence. Or, you can talk about an experience that changed the way you think about yourself or the world.

How well or how poorly the personal statement is written can play a critical role in the admission process. In addition to being focused, coherent, and interesting, it must be grammatically flawless.

To begin, prepare a typed, double-spaced 2-page statement that addresses specific questions, if asked, by the graduate/professional schools to which you are applying. Include sentences on why you want to attend a specific graduate/professional school, and proof-read carefully, checking for spelling and grammar errors. Finally, seek feedback from CSTEP GA's, Career Services counselors, and/or a faculty member.

2. Letters of Recommendation
Recommendations really come into play when an admissions committee is trying to decide between you and one or more other candidates. Most departments will request three letters of recommendation. At least one letter, and preferably two or more, should come from faculty in your major field.

Begin developing a relationship with your recommenders several quarters, or even years, before you need the letter. It is important that they know several facts about you: your character, your course work, your initiative, and your communication skills. Keep them up to date on your achievements, either verbally or in writing. Determine who will be your best advocates. If you hear reticence – complaints about not having enough time to write the recommendations or not knowing you well enough or long enough – find someone else. If someone feels forced into writing you a recommendation, you can bet it will be less than glowing.

Letters of Recommendation can be confidential or non-confidential. Typically, admissions officers give more credence to a reference if you've waived your right to read it; so be sure that you waive your right to read the letter of recommendation.

3. Standardized Tests
Many, but not all, graduate programs require some form of standardized testing. It is important to research the specific requirements of a particular program to determine which exams, if any, you need to take, and establish what the associated deadlines and costs are. Here is a list of graduate and professional standardized tests:

- Allied Health Professions Admission Test (AHPAT)
- Dental Admission Test (DAT)
- Graduate Management Admission Test (GMAT)
- Graduate Record Examination (GRE)
- Law School Admission Test (LSAT)
- Miller Analogies Test (MAT)
- Medical College Admission Test (MCAT)
- Optometry Admission Test (OAT)
- Pharmacy College Admission Test (PCAT)
- Veterinary College Admission Test (VCAT)

4. Additional Documents
As part of your graduate school application, you will be asked to submit official academic transcripts as well as a resume and/or cover letter. CSTEP GA's can also provide feedback on resumes and cover letters.

CSTEP Laptop Loaner Program

Did your computer crash? Is it being slow? Need one for the semester? CSTEP now has a laptop loaner program for the Fall 2013 semester. Students interested in borrowing a mini netbook should stop by the office today!
HABITAT FOR HUMANITY BELIEVES THAT EVERY MAN, WOMAN AND CHILD SHOULD HAVE A DECENT, SAFE AND AFFORDABLE PLACE TO LIVE. THEY BUILD AND REPAIR HOUSES ALL OVER THE WORLD USING VOLUNTEER LABOR AND DONATIONS. THEIR PARTNER FAMILIES PURCHASE THESE HOUSES THROUGH NO-PROFIT, NO-INTEREST MORTGAGE LOANS OR INNOVATIVE FINANCING METHODS.

CSTEP students have had the privilege of painting, repairing roofs, putting up siding, demolishing entire interiors of houses, assisting in electrical and masonry work, and landscaping. The students walk away knowing they helped a family come one step closer to owning their own house. This past summer, 25 students were able to work on a house at 1781 Seneca Street in the City of Buffalo. Habitat for Humanity staff say our students, in 6 hours of work, completed nearly 6 weeks worth of work done by regular Habitat for Humanity staff, which is all on a volunteer basis.

This Fall 2013, CSTEP students will once again have the opportunity to take part in another home renovation project with Habitat for Humanity on Saturday, September 27th. See the flyer below or stop by the CSTEP Office today in 222 Norton for more information on how you can volunteer with us!

CSTEP Community Service Day with Habitat for Humanity

Join UB CSTEP on Saturday, September 28, 2013 from 9:00am to 3:00pm

Meeting Location: University Train Station, UB South Campus (Meet at 8:30AM)
Community Service Location: 407 Minnesota Ave.

Skills Needed
No skills are required, just a desire to work and learn
Wear closed-toed shoes and comfortable clothes

Please RSVP to Nelson Rivera by September 25 at mmrivera@buffalo.edu

For information, please visit us in 222 Norton Hall 716-645-2234

Follow us on: Facebook @ UB CSTEP

HABITAT FOR HUMANITY FACTS

As a nonprofit, ecumenical Christian ministry that builds with people in need regardless of race or religion, we welcome volunteers and supporters from all backgrounds.

They have more than 1,500 local affiliates in the United States and more than 80 national organizations around the world. Together, we have helped to build or repair over 600,000 houses and serve more than 3 million people worldwide.

There are nearly 2 billion people around the world who live in slum housing and more than 100 million are homeless. Habitat for Humanity helps by building or renovating simple, decent houses in partnership with those in need.

Families left homeless by natural disasters, war and civil unrest often face dire housing situations as they struggle to rebuild their lives. We provide shelter and housing assistance to help these families recover.
SEPTEMBER

1 SUN  CSTEP/NSBE Welcome Back BBQ 1:00-4:00PM, South Lake Village Community Room

9 MON  CSTEP Research Internship Program Begins

13 FRI  CSTEP MONTHLY MEETING: Preparing for Grad School, Noon-1:00PM, 567 Capen - LUNCH SERVED!

26 THU  CSTEP Law Day, 3:00-5:00PM, 567 Capen Hall

28 SAT  Community Service: HABITAT FOR HUMANITY - Building/Renovating a House 8:30AM meeting time at UB South Campus Train Station (Upper Level)

OCTOBER

4 FRI  CSTEP MONTHLY MEETING: Study Abroad, Noon-1:00PM, 567 Capen LUNCH SERVED!

17 THU  “STEM: Preparing Our Nation’s Future Innovators”, Guest Speaker: Dr. Hrabowski, Ill, President of UMBC, 8:30-10:30AM, Monroe Community College

18 FRI  CSTEP MONTHLY MEETING: “Maximizing Your Potential”, Guest Speaker: Dr. Celeste Owens, Noon-1:00PM, 567 Capen Hall - LUNCH SERVED!

23 WED  CSTEP MONTHLY MEETING: INROADS, 3:00-5:00PM, 567 Capen Hall - LUNCH SERVED! (*Subject to change)

24 THU  RX For Success “Pharmacy”: 5:00PM, 183A Kapoor Hall, South Campus Pharmacy School - FREE FOOD!

25 FRI  CSTEP/NSBE Night Out - 7:00PM at Lasertron (5101 N. Bailey Ave)

NOVEMBER

1 FRI  CSTEP MONTHLY MEETING: Lunch with UB Dean of Engineering Liesl Folks, Noon-1:00PM, 567 Capen Hall - LUNCH SERVED!

8 FRI  CSTEP Research Luncheon: Session A, Noon-1:30PM, 567 Capen Hall - LUNCH SERVED!

25 MON  Campus Health Educator (CHE) Service Learning Project - Application Deadline

29 FRI  CSTEP Fall Internship Program Ends

DECEMBER

6 FRI  CSTEP Research Luncheon B & End of Semester Reception - Noon-1:30PM, 567 Capen Hall - LUNCH SERVED!

6 FRI  Recruitment begins for CSTEP Summer Research Program - Applications Available

CSTEP Graduate Assistant’s Office Hours

SEFILAT AJISHAFE: MON & WED 9AM - 2PM

KERISHA HAWTHORNE: MON 12PM - 5PM
THU 2PM - 5:30PM
FRI 12:30PM - 5PM

NELSON RIVERA:
TUES - FRI 10AM - 3PM

The CSTEP Graduate Assistants are available during these office hours to meet with students to discuss graduate school options, review personal statements, and assist with the application process.

Drop in Hours with Shanna Crump-Owens
TUE & FRI 11AM - 4PM
STUDY ABROAD

Questions about studying abroad?
Don’t know how to apply or **FUND** these studies?
What are the benefits of studying abroad?

**WHEN**
Friday, October 4th, 2013
Noon - 1:00pm

**WHERE**
567 Capen Hall
Free Lunch Provided

The UB Study Abroad Office & former CSTEP study abroad students answer all your questions!

For information, please visit us in
222 Norton Hall
716-645-2234

Follow us on:

**TO WHOM MUCH IS GIVEN, MUCH IS EXPECTED...**
The Collegiate Science and Technology Entry Program (CSTEP) provides services and activities to increase talented underrepresented students' retention into the licensed professions and careers in science, technology, engineering and mathematics (STEM). CSTEP meets this objective by providing the following services: academic and career advisement paid academic year and summer research/internship opportunities, tutoring, academic and career workshops, the CSTEP/Kaplan Scholarship, personal statement review and assistance with the graduate school application process, the CSTEP Excellence Scholarship, monthly student meetings, newsletters, attendance to conferences, and other enrichment activities.