SPOTLIGHT

FEATURED IN THIS ISSUE:

- CSTEP Summer Research Program
- Research Interns’ Spotlights
- CSTEP Kudos
- CSTEP Outstanding Alumni
- Consider Chiropractic Medicine
- Applying to Law School

CSTEP TOP TEN

Congratulations to the following ten students who are recipients of a $50 card to the University Bookstore for exemplifying excellence in academics by consistently maintaining a superior GPA:

1. Gino An
2. Tehmina Ashraf
3. Ezinne Ekwegbau
4. Paul Glenn
5. YuFeng He
6. Chukwunonso Ilogu
7. Muhammed Jafarri
8. Li Li Lin
9. Andrew Ortiz
10. Joanny Roman

NEXT CSTEP MEETING

RESUME WRITING
Friday, April 5, 2013
Noon
567 Capen
Food will be served!

CSTEP 2013 Summer Research Program

Application Deadline:
Wednesday, March 20, 2013
Students accepted into the program will be notified by March 25, 2013

Student Benefits Include:
- $3,000 Stipend
- Faculty Mentorship
- Intensive Research Experience
- Research Methods Seminar
- Meal Allowance
- Fieldtrips
- Multidisciplinary Workshop Series

Send applications to:
Shanna Crump-Owens, Director
CSTEP Summer Research Program
University at Buffalo
222 Norton Hall
Buffalo, NY 14260
(716) 645-2234
Fax: (716) 645-6710
scrupm@buffalo.edu
http://cads.buffalo.edu/cstep.html

Funded by the New York State Department of Education

For undergraduate students who are looking to excel in careers in the allied health professions OR science, technology, engineering, and mathematics (STEM), the Collegiate Science and Technology Entry Program (CSTEP) has designed an outstanding summer program. This program seeks talented underrepresented students whose academic careers would be enriched by conducting research under the tutelage of faculty at the University at Buffalo.

Purpose:
The program is designed to strengthen participants’ science and research skills. The program provides an intensive research experience to enhance the competitiveness of students pursuing the licensed allied health professions or STEM who belong to groups that have been historically underrepresented. In addition, participants will also be better equipped to gain admission into graduate programs, addressing the critical shortage of licensed allied health and STEM professionals.

Program Structure:
Eight week program conducted May 22 – July 17, 2013. In addition to conducting research, participants will attend a research methods seminar, workshops, and fieldtrips. The program concludes with our Research Poster Symposium, where students present their research to their peers, faculty, and the University community.

Eligibility Requirements:
- Must be U.S. citizen or permanent resident
- Must be underrepresented or economically disadvantaged
- Must be at least a sophomore with two semesters of science coursework
- Must have a minimum 2.8 GPA
- Pursuing licensed allied health professions OR STEM

How to Apply:
Submit the following materials:
1. The completed CSTEP Summer Research Program Application
2. Two letters of recommendation from faculty, staff and/or advisors
3. An official college transcript

Diversity Enables Discovery
Chiropractic medicine focuses on disorders of the musculoskeletal and nervous systems. Chiropractors treat neuromusculoskeletal complaints, including: back pain; neck pain; pain in joints, arms, legs; headaches. They have broad diagnostic skills and are trained to provide therapeutic and rehabilitative exercises, as well as nutritional, dietary and lifestyle counseling. The primary treatment utilized by Doctors of Chiropractic is the adjustment and manipulation of the spine and articulations of the body. They are also skilled in soft tissue treatment therapies.

Doctors of Chiropractic are referred to as chiropractors or chiropractic physicians. Generally, a chiropractor needs to complete at least 90 hours of credits of college coursework or have a bachelor’s degree. Each chiropractic school has its own requirements so it is always a good idea to research the admissions requirement for the school you would like to attend. Chiropractic schools take four years to complete. In order to treat patients, graduates of chiropractic schools must obtain a license in the state in which they intend to practice.

A current CSTEP Student, Ashley Narain, was recently accepted into the University at Brockport College of Chiropractor. Below are her reflections on the on the application process:

“Personally, I love interacting with people and making a more direct influence into their lives. I came to UB as an intended pharmacy major, but after working as a Pharmacy Technician at Rite Aid, I quickly realized that Pharmacy was not for me. I did my research and submitted applications for Chiropractic School. Dr. Erogbogbo, and Nelson Rivera, a CSTEP Graduate Assistant, worked with me to build a very strong personal statement. All of the graduate assistants also did a mock group interview with me just before my personal interviews. The amount of preparation I had during the application process and interviews molded me into a strong candidate. Soon after, I found out I was admitted for Spring 2013 into both schools that I had applied to. I am very excited to begin my chiropractic studies and enter into a very rewarding profession. I will now be able to have a career that truly interests me, thanks to the amazing people that have guided me along the way!”
Gino An, Biological Sciences

My research project was entitled, “Phytoremediation of Cadmium-Contaminated Soils Using the Microalga Chara Australis”. Chara australis is macrophytic algae plant living in an aquatic environment. This plant is known for its ability to extract heavy metals from the soil and transport them to it’s rhizoid and shoots. It can be used for phytoremediation on contaminated soil. In this study, Chara Australis was put into soil at four different concentration of cadmium and zinc, a Broyer & Barr nutrient solution for 10 days. The change in length and weight were observed and measured. Cadmium is a hazardous substance that needs to be under 1 mg/kg of soil. At higher levels, it creates conditions that easily kill living things.

FUTURE PLANS: To obtain a doctorate in Dentistry.

Barinaepkee Banuna, Biological Sciences & Psychology

The CSTEP Summer Research Program was much more than I expected. It required commitment and in the process I gained new friends and learned how to conduct research. I learned how to put together a successful oral and poster research presentation. The program offered professional etiquette and financial workshops outside of the traditional research program scope which I found helpful. My research project was entitled, “Current Update in HIV: Trends, Research, Prevention Strategies, and New Approaches”. It focused on new biomedical interventions to reduce new infections for HIV disproportional affected groups in the United States and required the knowledge of SPSS statistical data analysis software to map zip codes in Erie County that were most in need of cancer awareness and educational outreach.

CSTEP solidified my interest in research on infectious diseases like HIV. My advice for students interested in research is to look for research opportunities and when you find it keep an open mind, be committed, put in the work and expect to gain a lot.

FUTURE PLANS: To become a medical doctor and do research related to medicine. Also, I would like to work with the United Nations and medical humanitarian organizations such as Doctors without Borders to provide medical assistance.

Gino An
Sophomore, Biological Sciences

“Research is about seeking knowledge and supporting it with solid facts.”

Barinaepkee Banuna
Sophomore, Biological Sciences & Psychology

“CSTEP solidified my interest in research on infectious diseases like HIV.”
Brandon Durant, Electrical Engineering

During the CSTEP Summer Research Program, I worked on a project entitled, “The Potential of ZnO as a Semiconducting Material”. Zinc Oxide is a semiconducting material which is transparent in thin layers and also has high conductivity. In addition, the effect of oxidation on this material is minimized due to its ability to react with oxygen. It is also an earth abundant material, which makes it recyclable. As a result, its potential as a leading semiconductor is extremely high. However, Zinc Oxide has not yet been utilized this way because of the challenges faced when attempting to get it to maintain certain properties. The purpose of this research is to attempt to grow a transparent thin layer of Zinc Oxide as a p-type material with as little unwanted doping as possible.

FUTURE PLANS: To pursue a doctorate in Electrical Engineering.

Theresa Yera, Cultural Anthropology

During the summer research program, I had the fortune to study the role of estradiol in arrhythmias by observing the interaction of the hormone with the HERG K+ channel. Understanding how hormones affect cardiac ion channels could allow one to design interventions to reduce the risk of pharmaceutical-induced sudden death in females. My research into this topic and previous experiences in health promotion (as a Campus Health Educator) has strengthened my resolve to break the “bench to bedside” routine and follow a path of bedside to community and bench to community. I want to combine clinical practice with sociocultural anthropology - specifically with community and health care advancement. Rather than simply work in a clinic and treat patients, I want to address underlying causes of medical problems in the community.

FUTURE PLANS: I am currently entertaining the idea of a PhD/MD. Summer research helped, but I am looking forward to more years of figuring it all out.

“CSTEP students should take advantage of all the opportunities presented to them.”
ASHLEY NARAIN
University of Bridgeport College of Chiropractic

Intended for UB’s School of Pharmacy, Ms. Narain made the decision to apply for the University of Bridgeport College of Chiropractic. She believed that, due to her strong desire to work more directly with patients and her previous interactions with chiropractors, this would be the better field of study. Upon her acceptance to the College of Chiropractic, the admissions counselor said that her previous research experience through CSTEP is what made her stand out from the other candidates. Ashley will be starting Spring ’13 with her new studies.

Congratulations Ashley and best wishes!

BELLE CUNNINGHAM
Intern, Rock-Tenn Company

For the Spring ’13 semester, Ms. Cunningham will be a Process Analysis Intern for the Rock-Tenn Company in West Point, Va., one of North America’s leading producers of corrugated and consumer packaging and recycling solutions. In her words, “Manufacturing involves a lot of chemicals and processes that I have learned about through my course work and research experiences here at UB.” Belle will be working on multiple projects including waste management, efficient reactor design, and pulp purification.

Congratulations Belle and best wishes on your internship!
Samuel Aboah, Technical Consultant

DEGREE(S) YEAR OF GRADUATION: Electrical Engineering, BS 2003

ORIGINAL CITY: Washington Heights, NY

CURRENT CITY: Bronx, NY

CURRENT JOB POSITION: Technical Consultant, Hewlett-Packard

COMMUNITY INVOLVEMENT: Served as a young adult leader at my church for the young adult ministry - Times Square Church Serve as a founder and president of National Ghanaian Parade Council (NGPC). The mission is to promote and celebrate the diversity of Ghanaian Culture through the annual parade, empowering Ghanaians, and making positive contributions in our communities while developing and maintaining alliances with other African communities in the greater New York City Area.

ORGANIZATIONS AND AFFILIATIONS: Founder & President, National Ghana Parade Council

ONE FOND MEMORY OF UB AND/OR CSTEP: The day a fellow student gave me the encouragement I needed to keep persevering in my major, when I thought I didn’t have anything left in me.

WHO YOU WOULD LIKE TO THANK: Shanna Crump-Owens, Patricia Greer, Mr. Dave Blackburn for his encouragement. Mr. Drexel for his willingness to always be helpful and his way of being hopeful. Linda Wilson, ECM Director, for her kindness and friendship. Shelly Dubose & UBGC family - UBGC’s Choir Director for being such strong influence in encouraging me to live my life as a young adult Christian in college.

Darowan Akajagbor, Pharmacist

DEGREE(S) YEAR OF GRADUATION: 2009 - Pharmacy, Pharm.D.

ORIGINAL CITY: Westchester, NY

CURRENT CITY: Syracuse, NY

CURRENT JOB POSITION: Assistant Professor at D’Youville College of Pharmacy and Critical Care Pharmacist at SUNY Upstate Medical Center

ORGANIZATIONS AND AFFILIATIONS: Board Certification in Pharmacotherapy (BCPS)

ONE FOND MEMORY OF UB AND/OR CSTEP: The MANY long winters in Buffalo!

WHO YOU WOULD LIKE TO THANK: Shanna Crump-Owens, and Dr. Valery Chu, my mentor and friend.

“Success is not final, failure is not fatal: it is the courage to continue that counts.”

Winston Churchill, Former British Prime Minister

“Take your victories, whatever they may be, cherish them, use them, but don’t settle for them”

Mia Hamm, U.S. Olympic Women’s Soccer Team
Frank Acheampong, Pharmacy Intern

**DEGREE(S) YEAR OF GRADUATION:** Biomedical Science, BS 2009, Pharmacy, PharmD, 2012

**ORIGINAL CITY:** Bronx, NY

**CURRENT CITY:** Worcester, MA

**CURRENT JOB POSITION:** Pharmacy intern - Whittier Rehabilitation Hospital

**COMMUNITY INVOLVEMENT:** Volunteer at Akwaaba Free Clinic where I serve as drug information consultant to the physician and medical students. SAT tutor at International Central Gospel Church, Veterinary Pharmacy Program Certificate, Pharmacy Intern License, Basic Life Support Certification, Immunization Certification.

**ORGANIZATIONS AND AFFILIATIONS:** MCPHS Black Student Union-President, American Society of Health-System Pharmacists (ASHP), Member; American Pharmacists Association (APhA), Member.

**ONE FOND MEMORY OF UB AND/OR CSTEP:** During the CSTEP summer research program I enjoyed the weekly events that we had. I also enjoyed listening and critiquing the research presentations that we did.

**WHO YOU WOULD LIKE TO THANK:** Shanna Crump-Owens, Dr. Letitia Thomas, Dr. Qing Ma, and Student Support Services.

Brianna Clark, Engineer

**DEGREE(S) YEAR OF GRADUATION:** Power Systems, Electrical Engineering, BS 2010

**ORIGINAL CITY:** Buffalo, NY

**CURRENT CITY:** Worcester, MA

**CURRENT JOB POSITION:** Distribution Planner-Associate Engineer, National Grid

**COMMUNITY INVOLVEMENT:** Math Tutor 6-8th grade students at International Central Gospel Church in Worcester, MA

**ORGANIZATIONS AND AFFILIATIONS:** Society of Women Engineers, National Society of Black Engineers, Eta Kappa Nu

**ONE FOND MEMORY OF UB AND/OR CSTEP:** During the summer research internship I had a lot of fun on the weekly trips/events.

**WHO YOU WOULD LIKE TO THANK:** Dr. Jennifer Zirnheld, Christine Wingo, Shanna Crump-Owens, and Patricia Greer.
DID YOU KNOW?

The UB Center for Undergraduate Research & Creative Activities (CURCA) offers funding for undergraduate students who are conducting research projects with a faculty advisor. This program is designed to promote undergraduate research by providing funding for research related costs such as: supplies, human subject costs, travel expenses, and conference fees. Any UB undergraduate student working on CURCA listed research projects with a faculty advisor are eligible to apply for these funds.

CSTEP encourages students to apply for the CURCA award, which can fund travel expenses to present their work at conferences. Eight of your fellow CSTEP students have recently received funding from CURCA which they will use to cover costs associated with attending the 21st Annual Statewide CSTEP Student Conference held on April 12-14 at the Sagamore Resort in Albany, NY. We would like to congratulate your fellow CSTEP students that have successfully completed this process and received funding; Barinaepkee Banuna, Sharece Blake, Keith Dolcy, Xiang Lin, Price Obot, Khalif Osson, and Theresa Yera. These funds are allocated specifically for students and are waiting to be distributed to eligible applicants.

For more information follow the link below:
http://curca.buffalo.edu/students/funding.php

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**Dos and Don’ts When Applying for CURCA Awards**

**DO:**
- State what the end product will be- are you going to present on the results of your work? And if so, how? Are you going to gain information that will be used in a future project?, etc.
- Be specific about your project. Specify exactly what YOU have done and will do, what tasks you are responsible for, etc. [This is especially important for group projects or projects in a faculty or graduate student’s lab] and what the end product will be (paper, presentation, poster, performance, etc.)
- Provide a copy of any surveys, questionnaires, etc. that will be used in the project
- Have your faculty mentor sign your application
- Proofread your application for grammatical errors, spelling, correctly cite sources etc.
- Have one of your friends from another major read your application- do they understand what you are doing?
- Work with your faculty mentor. Ask their advice
- Allow time to work on multiple revisions of your proposal

**DON’T:**
- Use a lot of technical jargon, use cut and pasted descriptions of projects, conferences, etc. Rewrite the information in your own words
- Turn in an application that contains grammatical and spelling errors
- Ask for money to pay you as a research assistant or for work being done in a graded course. This funding is meant to support original research projects being done with a faculty advisor.

General Budget Tips:
- If your budget exceeds $500, please specify where the rest of the funds will be obtained, or what will happen to the project if you do not receive the money
Thinking about applying to law school?

**LAW SCHOOL IS A SIGNIFICANT TIME COMMITMENT AND FINANCIAL INVESTMENT. HOWEVER, WHETHER YOUR GOAL IS TO PRACTICE LAW OR NOT, A LAW DEGREE IS A VALUABLE ASSET THAT IS USEFUL IN MANY CAREERS OUTSIDE OF LAW. A LAW DEGREE SHOWS THAT YOU HAVE STRONG WRITING, REASONING, AND ANALYTICAL SKILLS.**

The best route to take before applying to law school is to do your research: speak to current law students about their experience and individuals in the field, visit the different schools you are interested in, and speak to law professors and admissions counselors. The more you know about the law school experience the better off you will be in deciding if this is the best fit for you.

**Here are few things to keep in mind as you apply for law school:**

1. Register on lsac.org as soon as possible. LSAC is an online service that provides you with an easy way to ensure that you have assembled everything you need to successfully complete the law school application process. This is where you will register for the LSAT, complete your online applications, and assemble your recommendation letters, personal statements, and transcript.

2. Maintain a GPA above a 3.0. Law school is a rigorous program. Strong academics matter! Your undergraduate GPA shows that you have the work ethic, study skills, and discipline that are needed to succeed academically.

3. Prepare for and take for the LSAT. The LSAT is the standardized exam that is required for all ABA law schools. It is crucial that you prepare for the LSAT! This exam test a standard measure of acquired reading and verbal reasoning skills, and it can make or break your chances of getting into law school. Preparing for the LSAT can be costly, so don’t forget that CSTEP provides the Kaplan Scholarship for qualified students to help prepare them for the LSAT through an on-site Kaplan exam-prep course. It has been shown that students who take an exam prep course are likely to do better on standardized exams.

4. Apply early. The earlier you apply to schools the greater your chances are of getting in and getting scholarships. At the beginning of the application cycle, schools have more slots to fill and are more likely to accept good candidates.

5. Most law schools require recommendation letters. Generally, they will require that at least one of your letters of recommendation is from a professor. It is never too late to start building a relationship with your professors. An easy way to do this is going to their office hours.

6. A Personal Statement is likely to be required. This may be one of the most difficult parts of the application process. Remember that CSTEP provides assistance in personal statement revisions!

**Did You Know?**

A solid personal statement and good recommendation letters may be the difference between you and another similarly qualified student.

There is no such thing as a pre-law major. You do not need to major in a specific subject area to go to law

Take advantage of intensive writing courses as an undergraduate. Strong writing and analytical skills are valued in law school.

The law degree is formally known as a Juris Doctor.

Once you have done your research and you are certain law school is the next step for you, meet with your pre-law advisor to discuss a time-line for the application process. UB’s pre-law advisor is Jon Bonebrak, 109 Norton Hall, (716) 645-6031, bonebrak@buffalo.edu. CSTEP also works closely with students who are preparing for law school. We are located in 222 Norton Hall, (716) 645-2234.
Spring 2013
CSTEP Calendar

JANUARY
25 FRI CSTEP MONTHLY MEETING: Professionalism: Noon, 567 Capen - Lunch Served
26 SAT “I Am Medicine” Conference at University of Rochester Medical School
28 MON CSTEP RESEARCH INTERNSHIP BEGINS
30 WED Habits of Highly Successful Students Series: Time Management, 3:30 SU Theatre

FEBRUARY
1 FRI CSTEP Research Luncheon: Session A, Noon, 567 Capen - LUNCH SERVED!
15 FRI CSTEP Law Day: Noon, O’brian Hall - Lunch Served!
9 SAT Kaplan Practice Exams: DAT, GRE, LSAT,MCAT, and PCAT call (716) 636-1882 for more information
18 MON CSTEP/STEP Shadow Day, 8:15am at SU lobby
23 SAT RX For Success “Medical School”: 9:00am - 1:00pm, UB Medical School, Lipphutz Room

MARCH
1 FRI CSTEP MONTHLY MEETING: Women in STEM: Noon, 567 Capen - Lunch Served!
6 WED CSTEP Day Service: 9am - 2pm, CSTEP Students needed to volunteer in classroom at International Prep Academy
20 WED APLICATION DEADLINE for CSTEP Summer Research Program

APRIL
5 FRI CSTEP Excellence Scholarship Application Deadline - $500 Scholarship
5 FRI CSTEP MONTHLY MEETING: Resume Wiritng, Noon 567 Capen - Lunch Served!
10 WED CSTEP CHE Organ Donor Registry Drive - 10am - 3:00pm, SU lobby
12 FRI CSTEP Statewide Conference “Journey’s Beyond Excellence”: Fri. 12- Sun. 15
19 FRI CSTEP Spring Internship Program Ends
26 FRI CSTEP Student Recognition Dinner: Newman Center, 3:00pm

MAY
22 TUES CSTEP Summer REsearch Program Begins
GIVE BACK.

CSTEP’s Day of Service

Wednesday March 6, 2013
9:00AM – 1:00PM
International Prep Academy
(333 Clinton St., Buffalo, NY 14204)
Rides will be provided by CSTEP

Give back to the community. Inspire local students by sharing your collegiate experiences in their classrooms and stressing the importance of education.

Open to UB Students, Faculty, Student Clubs, Alumni, and organizations wishing to participate.

PLEASE RSVP to nmrivera@buffalo.edu by Monday, March 4th

COLLEGIATE SCIENCE & TECHNOLOGY ENTRY PROGRAM (CSTEP) 222 NORTON HALL 716-645-2234

CSTEP
preparing science, technology & licensed professionals since 1985
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.

To Whom Much is Given, Much Is Expected