

B I N T O U C H W I T H B S C P

B I O M E D I C A L S C I E N C E C A R E E R S P R O J E C T

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Welcome to the first issue of *In Touch with BSCP*, the newsletter of Biomedical Science Careers Project. This newsletter was born out of a very simple need for communication — among participants (both past and present), mentors, and others who would benefit from any of the numerous programs sponsored by the medical, academic, biotechnology, secondary school guidance and professional communities that comprise the Biomedical Science Careers Project.

BSCP was launched in 1992 to provide students of all races, ethnic backgrounds, gender and financial status with the encouragement, support and guidance they need to pursue careers in biomedical science. Biotechnology is one of the most growth-intensive fields in the U.S. right now. In Eastern Massachusetts alone, it is estimated that 20,000 biotechnology/biomedical jobs will be created between now and 1995. And employment in the health and medical sectors will grow at two-and-one-half times the rate of all other forms of employment. Our goal is to provide information and contacts so that in-

terested Black, Hispanic and Native America students can find their way into these jobs.

People involved with other programs geared to high school, college and graduate school students have found that while the students who participate do very well and are happy with their experience, many of them disappear after completing one program — most often because they don't know of others. We also know

that there are many more qualified and interested students out there who could benefit from programs — if only they knew about them. Through this newsletter, we hope to bridge these gaps.

In Touch with BSCP will be published three times a year — in the fall, winter and spring —

with information about internships, academic programs, calendars of coming events, career paths in industry, and an inside look at students' and mentors' experiences. We hope you find this newsletter helpful and that it will add continuity to your BSCP experience. ♦



Joan Reede, organizer of BSCP.

Student Profiles

Project Success: Opening the Door to Biomedical Science Careers

With the leaves turning, the sun setting earlier and the feel of fall in the air, summer vacation seems eons away. Do you even remember how you spent your summer vacation?

Ana Cedona Echavarria worked with DNA, learning how researchers approach medical problems in the laboratory.



Student participants in Project Success. From left to right: Nyasaha Toyloy, Christina Bridgforth, Ana Echavarria, Dellicia Shorter. In front: Carmen Corbie.

Christina Bridgforth worked in a neurobiology laboratory studying the neuroanatomy of the eye, looking for causes of myopia, or near-sightedness; and examining the structure of the retina for clues about how the eye works.

Carmen Corbie dispensed bleach bottles for intravenous drug users; baby formula, diapers and clothing; and advice — to teens and teen-aged parents — on Beth Israel Hospital's Family Van, a community-based outreach program designed to combat infant mortality by bringing services to the streets of Boston.

Nayasaha Samuels Toyloy worked on a variety of projects at Children's Hospital, including a federally-funded survey aimed at determining the relationship between the Primary Care training given in medical schools and students' later decisions to go into Primary Care practices.

Dellicia Shorter conducted research in the nutrition lab at Harvard School of Public Health, isolating cell cultures in a sanitary environment where they would not be exposed to damaging yeast.

And not one of these young women has graduated from high school yet.

Rather, they were the five Boston-area high school students selected to participate in the first annual Project Success: Opening the Door to Biomedical Science Careers, a program created by BSCP in conjunction with local medical schools, corporations, hospitals and high schools to provide biomedical research opportunities to Boston and Cambridge students.

And by all accounts, the project was a success. At an end-of-the-summer luncheon, the students delivered impressive presentations on their work to a group made up of their mentors and Project sponsors.

Corbie, a senior at English High School who spent last year as a peer leader at Roxbury Comprehensive Community Health Center, intends to continue her work on the Family Van through the academic year, educating her contemporaries on the potentially dire consequences of drugs and unprotected sex. "Things are very different for us than they were for our parents," she says. "We

have to deal with more deadly drugs, and so much teen pregnancy. We really need to have more teens going out to the community as teen leaders because teens don't listen to adults."

Samuels Toyloy will work on a project with Dr. John Graef, at the Children's Hospital Lead Clinic, during the academic year. But after sitting in on several pediatric visits, she has shifted her career goals — from pediatrics to neonatology. "I had a very fun, informative summer," she says. "Lots of the kids that come in are very sick. It's a hard job to do," she says of doctors who dedicate themselves to caring for children.

All five participants of Project Success are guaranteed research opportunities for the coming summer, and the group coordinators are hoping to open the program up to even more students. Stay tuned to future issues of *In Touch with BSCP* for more information. ♦

Mentoring Through the Science/Engineering Academic Support Network

Fueled by a childhood fascination with astronauts, and an interest in science, Michael George Bruce left his New Jersey home three years ago, headed for the Massachusetts Institute of Technology (MIT), where he planned to major in Aerospace Engineering. But when he got there, it wasn't exactly what he had anticipated.

"My first year at MIT was fine," says Bruce. "But by my sophomore year, when I had to start taking courses in my major, I discovered that aerospace engineering wasn't really for me." At the time Bruce did not feel he had anywhere to turn for advice, and he left MIT.

"I was really lost," he recalls. "For a while, I didn't care where I went

next. My parents were really supportive, but they didn't know how to advise me. They came to the U.S. from Guyana in the 1960s, and they don't have any experience in this field. Finally my sister-in-law, who comes from Worcester, suggested Worcester Polytechnic Institute (WPI)."

Bruce is now a senior at WPI, majoring in Computer Science. In the fall of 1992, he was selected to participate in the mentoring program sponsored by the New England Board of Higher Education's Science/Engineering Academic Support Network. "I wanted to find a professional in a field related to my interests, whose background was similar to mine, who I could talk to," he says. "There aren't many minority students at WPI. And I didn't have any idea how to network, how to get into graduate school, what corporate life is like, what the barriers are to minorities in computer science, or even what types of classes I should take."

Bruce's mentor, Tony Parham, is a product manager at Lotus Development Corporation, a computer software company headquartered in Cambridge. For the better part of a year, Bruce and Parham communicated via electronic mail. And Bruce made one trip to Cambridge, to see first-hand what Parham does at Lotus and to get a feel for what it is like working for a corporation.

"Having a mentor was very helpful," Bruce says. "If I had been able to talk to an aerospace engineer when I was at MIT, it would have helped a lot. But I am glad I was able to get into the program even in my junior year."

Right now Bruce is busy completing applications to graduate school. For the long term, he says he is considering two options — either staying in school until he receives his Ph.D.,

and becoming a professor; or going to work for a corporation when he finishes graduate school, "and trying to pay off my school loans." ♦

Merck /MGH Minority Fellowship: Exposing Minority Students to Medical Research

To Michelle Albert, a fourth-year medical school student enrolled at the University of Rochester, one of the best aspects of receiving a Merck/MGH Minority Fellowship award has been the opportunity to participate in "ground-breaking research with outstanding researchers."

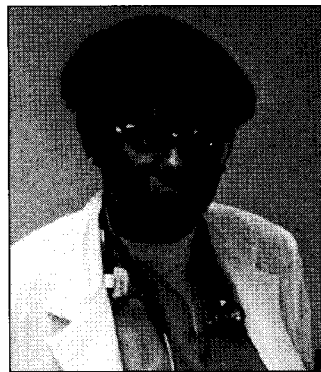
In 1992 Albert, who moved to the United States from Guyana during her senior year of high school, was the only minority medical student awarded this fellowship by Merck Pharmaceuticals and the Massachusetts General Hospital. In addition to research opportunities, the award carries a stipend and a one-time monetary award, to be used toward continuing education expenses.

Albert spent the summer of '92 working at Merck, testing anti-diabetic agents as part of a research project aimed at developing a drug to reduce sugar levels in diabetic patients with a strong history of heart disease. Two summers ago she was at MGH, working on a research project aimed at determining the relationship between substances released from blood vessels and coronary artery spasm.

Both assignments were perfect for Albert, who plans to focus on academic medicine and public health policy when she is finished with school, and who has a special interest in cardiology. "As a medical student, you don't have much free time to pursue personal interests, and there's not much emphasis on academic medicine in the curriculum," she says. "It's been good for me to be able to participate in programs like this, to keep my interest peaked and to keep the thirst for knowledge alive."

Albert was no stranger to MGH when she arrived for her summer of research. After her first year of medical school, she participated in the Hospital's Summer Research Training Program (SRTTP), a program intended to expose students of color to medical research. Currently she is in Boston pursuing her fourth-year electives in hematology/oncology at Beth Israel Hospital; and medicine and cardiology at MGH. She also spent the month of September on a visiting clerkship at MGH, sponsored by the Minority Faculty Development office at Harvard Medical School.

Once she graduates from medical school, Albert hopes to do an Internal Medicine residency program at one of the Harvard-affiliated teaching hospitals, then go on for a Masters degree in Public Health, with a focus on heart disease and preventive medicine. "After an Internal Medicine residency, I think I'll have a better idea of how to pursue my specific goals professionally," she says. ♦



Michelle Albert

Upcoming Events

"Career Opportunities for the 90s"

Wednesday, October 20
4:00 - 5:30 p.m.

"Essay Writing for College Applications"

Wednesday, November 10
4:00 - 5:30 p.m.

"Paying for College"

Wednesday, December 1
4:00 - 5:30 p.m.

Sponsored by
Higher Education Information
Center/Freedom House
14 Crawford Street, Dorchester
for information, call
(617) 445-0195
Mon.-Thurs. 3:00 - 8:00 p.m.

"What's the Word: Success"

Saturday, November 13
8:00 a.m. - 2:00 p.m.

Meeting of Eastern Mass.
Support Network for
AHANA* Students

*AHANA = African American,
Hispanic, Asian and Native American
Students

Lesley College, Cambridge
8:00 a.m. - 2:00 p.m.
for information, call
(617) 357-9620

TIPS: Financial Aid and Scholarships

Despite the dreams, academic preparedness and best intentions, too many promising high school graduates never go to college — and college graduates do not go on for advanced degrees — because they can't afford it. If finances are a problem for you, it is possible to continue your education, with the help of scholarships and financial aid.

The Higher Education Information Center (HEIC), located on the Concourse Level of the Boston Public Library, is a resource center for students in need of financial aid. The goal of the Center, which recently opened a satellite office at Freedom House in Dorchester, is to help students get the information they need to apply for financial aid that will enable them to enroll in college, graduate or professional schools.

The Center has printed materials on private scholarships, and federal and state financial aid programs; an on-line scholarship database; and catalogs from approximately 2,500 colleges and universities across the country. Individual school catalogs include information on financial aid programs offered by the school directly, work/study arrangements, and the types of loans that may be available. The Center's 30-person staff is available to answer questions, direct students to the most appropriate resources, and provide assistance filling out applications.

Jane Collins, director of Information and Counseling Services at the Center, advises, "It's never too early to start thinking about financial aid. As money gets tighter, students who file on time have a much better chance of getting their financial needs met."

The Higher Education Information Center at the BPL, on Boylston Street in Copley Square, is open Monday through Thursday from 9 a.m. to 9 p.m.; and on Friday and Saturday from 9 a.m. to 5 p.m. The Freedom House Office, at 14 Crawford Street in Dorchester, is open Monday through Thursday from 3 p.m. to 8 p.m. Counselors are available to assist students on a walk-in basis at both sites.

If you have any questions, you can call the BPL Center at 536-0200, or Freedom House at 445-0195.

Mentor Profile: John C.S. Fray

John C.S. Fray, Ph.D., a researcher and professor of Physiology at UMass Medical School in Worcester, hardly took the typical route to get where he is today. He moved to New York from Jamaica in 1963. "I was 20 years old and hadn't gone to high school yet," he says. But he began working on his education almost immediately.

At 21, Fray enrolled in a private high school, finishing the accelerated program in two years. He went on to Howard University, in Washington,

D.C. "I didn't even know it was a Black school before I went," he says. "I went there because it was less expensive than some other schools, and I had to put myself through school."

Fray graduated from Howard with a B.A. in Mechanical Engineering, and went on to MIT and Harvard, where he earned an M.S. in Mechanical Engineering and a Ph.D. in Physiology, respectively. "In retrospect, I moved along through ignorance," he says. "But kids today don't have to function in ignorance."

In April of 1992, Fray was a mentor at the day-long BSCP conference

in Boston. Because the only time he had to really talk to his students was during lunch, "I took whatever opportunity I could to communicate with them about science." At the table, Fray says he exchanged notes with the students about what it meant to them to be a scientist.

Fray has continued to exchange letters with the students, many of whom write to him at UMass asking for advice on their education and career paths. "I let them know what I've seen in the past, but I try to pull out from them what their talent is. And I steer them accordingly." ♦