

# Medical School Introduces Teens To Biotechnology Careers

BY RHODA WEISS

**A**lthough most medical schools and their affiliated hospitals focus all their programs on training future physicians, Boston University School of Medicine (BUSM) sponsors CityLab, a program that introduces middle and high school students and their teachers to the biotechnology field.

CityLab is a biotechnology learning laboratory that gives students and their teachers access to state-of-the-art laboratory facilities for instruction and experimentation. The program provides hands-on biochemistry, cell and molecular biology, immunology, and microbiology. Although only three years old, CityLab has already served more than 3,000 high school students, 30 percent of whom come from inner-city schools that lack the resources to introduce their pupils to the sciences.

"Our goal is to demystify the field of biotechnology and encourage students to consider career opportunities in the field," explains CityLab Education Coordinator Don DeRosa. "Kids know what it is like to be a police officer because they see it on television, but they don't know what it's like to be a laboratory scientist."

Launched in 1991, CityLab is a partnership of scientists, educators, community groups, and economic-development organizations. CityLab is an outgrowth of BUSM's undergraduate program in Biomedical Laboratory and Clinical Sciences. The program is partially funded by the Science Education Partnership Award of the National Institutes of Health (NIH) and the Howard Hughes Medical Institute. CityLab has also received grants from organizations such as the Nellie Mae Fund for Education, which offers higher education financing to students whose financial needs exceed federal aid limits. In addition to the student-oriented programs, BUSM offers teacher training programs to keep teachers up-to-date in their fields.

## AFTER-SCHOOL PROGRAMS

Last year CityLab launched BioCity—a mock biotechnology company run by and for students.



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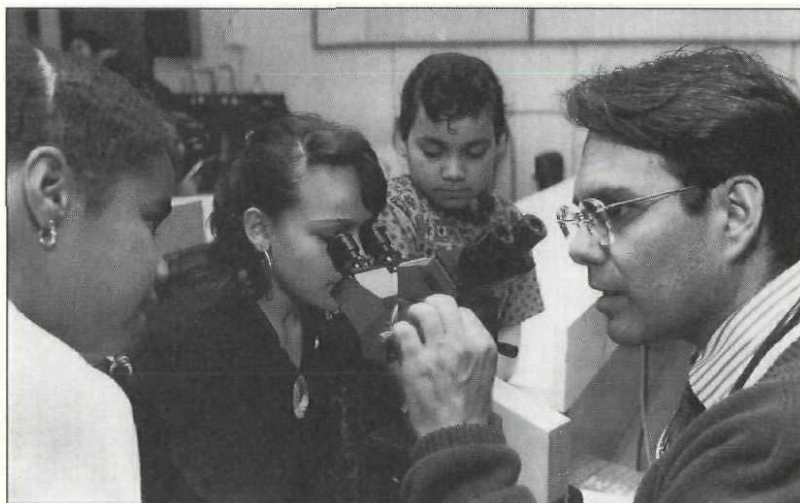
The company produces perishable laboratory supplies, such as agar plates, for high school biotechnology classes. BioCity is an after-school activity that allows students to become involved in all aspects of the biotechnology business, including production, quality control, and marketing. In fact, the agar plates are being marketed to teachers and schools.

CityLab also offers an after-school biotechnology club for students interested in ongoing scientific research. The club helps students to develop basic skills and techniques associated with biotechnology, as well as to learn how to design and carry out research projects. And in collaboration with several of the area's biotechnology companies, CityLab now offers a summer internship program for people older than age 18.

## ADDITIONAL NIH PROGRAMS

Several students, including BioCity's "chief executive officer" and "marketing director," have worked in research laboratories at the BUSM as participants in the NIH Minority High School

*Continued on page 57*



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Student Research Apprentice Program.

Another NIH program, Biomedical Research Advancement: Saturday Scholars (BRASS), brought 20 middle school students to CityLab last year. Students performed tasks such as DNA fingerprinting, screening a patient for sickle cell anemia, or testing a fictional patient for HIV infection. During "graduation," the junior scientists shared the results of their six weeks of exploration with family and friends at CityLab.

**BIOTECHNOLOGY SCIENCE FAIR**

CityLab is also available to any high school or middle school student who wants to do a science fair project related to biotechnology. Last year students from several Boston high schools used CityLab facilities to design and complete the laboratory component of their projects.

Later this year, CityLab will sponsor the Biotechnology Science Fair at BUSM. Rather than a competition, the fair will be a chance for students to share their ideas and display the outcomes of their scientific investigations with experts in the fields of biotechnology and molecular biology. In turn, a team of scientists will evaluate each student's project, offering encouragement and suggestions for further growth and exploration.

CityLab's creators hope "the non-competitive tone of the science fair encourages students to take educational risks" and that students will approach science projects "without

concern for winning or losing," says CityLab Director Constance Phillips.


**SPREADING THE WORD**

To help communicate and market the program, CityLab produces a newsletter and fliers that are distributed to schools and other interested organizations. In addition, several local newspapers and television and radio stations have highlighted the program.

CityLab's effectiveness is not confined to the Boston area. Its directors have been approached by several institutions around New England that hope to set up CityLab satellites in their communities.

CityLab gives students more than an education; it helps them with career planning. "There is much concern about the potential for today's graduating high school students to secure employment in career-track jobs," says Elaine Ullian, president and chief executive officer, Boston University Medical Center Hospital. The purpose of CityLab, she says, is "to broaden the vision and to communicate our efforts to serve the needs of our community—and therefore the job opportunities of these students.

"These students are learning problem-solving and critical-thinking skills," adds Phillips. "By raising the level of awareness, we hope to encourage students to enroll in courses in biomedical sciences at the college level." □

 For additional information on CityLab, call Constance Phillips, 617-541-5622.

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