

RESOURCES

CAREERS

Get on the bus

Connecticut's BioBus stimulates interest in science careers.

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Instilling a vision of the future that is based on innovative new science and technology in teachers and students alike, Connecticut's BioBus, a state-of-the-art mobile biotechnology laboratory, will begin traveling to middle and high schools throughout the state next year. The 40-foot bus is a road-show affirmation of Connecticut's rapidly growing BioScience Cluster and its commitment to expand the technically trained workforce essential for its continuing success.

Just like the pharmaceutical research pipeline, a process that takes 12–15 years to produce a marketable medication, the educational process also requires time and suffers from attrition. To fuel the workforce pipeline, it is critical to introduce students to science early. This is the goal of Connecticut's BioBus, the brainchild of CURE (Connecticut United for Research Excellence), Connecticut's BioScience Cluster, a not-for-profit coalition of more than 90 members representing all sectors of bioscience research and support. Funding for the BioBus is a joint effort of CURE member organizations, who contributed \$1.5 million to the project, with matching funds from Connecticut Innovations, the state's leading investor in high technology and administrator of the state's Biotechnology Facilities Fund.

An important goal of the five-year BioBus program is to educate students about career opportunities in bioscience. Not only will it provide them with a snapshot of work experience in a laboratory, it will enable them to see and use equipment they may not have in their own schools. The program will meet a need for workforce development that is well documented nationally, and will also be an unparalleled opportunity for residents of Connecticut. From 1995 to 1999, Connecticut's biotechnology and pharmaceutical company R&D expenses increased nearly 140%, propelling a 42% workforce increase in this sector, which also includes academic R&D.¹

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New science, new opportunities

Technical-level position vacancies exist in every bioscience firm in the cluster. The demand is great for scientists and technicians with undergraduate to PhD degrees in biochemistry, chemistry, microbiology, molecular biology, and pharmacology. And as biomedical research stands on the threshold of what is arguably the most important advance in modern science—the decoding of the human genome—filling these positions now becomes more important than ever.

Connecticut's BioBus focuses on this need in a very tangible manner. As it visits



Harry H. Penner, Jr. (left) leads a delegation of Connecticut state officials on a tour of Boston University's MobileLab conducted by its education coordinator, Don DeRosa (right foreground).

schools throughout the state, two BioBus instructors will engage 24 students at a time in scientific, hands-on experimentation suitable for their ages, such as discovering a genetic defect causing sickle-cell anemia, or "solving" a crime with DNA-based clues. Another benefit of the BioBus will involve mentoring. Corporate scientists and college biology students will be able to share their passion for the life sciences and offer personal insights into their career choices when the BioBus visits their area schools.

Even when school is not in session, the bus will rarely be idle; it will also host parents, community groups, economic development officials, municipal and government leaders, and other members of the public. In every case, the focus will be on the immeasurable value of bioscience research and development to humankind and the availability of careers in the field.

Like its prototype, the two-year-old MobileLab based at Boston University School of Medicine, the BioBus will undoubtedly host

thousands of Connecticut students and teachers in its first years on the road. The Boston program, which has reached 9,000 students to date, has been so successful that the University of North Carolina at Chapel Hill also followed suit this spring, rolling out its own bus in partnership with seven historically black universities under the sponsorship of Glaxo Wellcome. MdBio, a Maryland-based bioscience industry group, has asked the NIH for funds to build a similar bus, as well.

Connecticut's BioBus is consistent with CURE's primary missions. The organization was founded in 1990 to promote the significance of bioscience in the classroom. In 1998, Connecticut Governor John G. Rowland hand-picked CURE for a new role as the organizational center for bioscience in the state, as Connecticut embraced Harvard professor Michael E. Porter's economic theory of cluster development. CURE members include the state's four pharmaceutical companies—Bayer, Boehringer Ingelheim, Bristol-Myers Squibb, and Pfizer—as well as the rapidly growing biotechnology industry, universities, hospitals, professional societies, and companies that supply industry services and support. As Connecticut's BioScience Cluster, CURE is at the hub of a vitally important statewide economic initiative: encouraging interaction within the existing bioscience components in the state. Connecticut's BioBus is a perfect example of their collaboration.

Conclusions

Bioscience is one of the fastest growing economic sectors in Connecticut, but competition with other states and countries is fierce, particularly in the employment arena. Connecticut's BioBus, a collaborative effort of the BioScience Cluster, will stimulate the state's young people to consider careers in the life sciences while pursuing higher education. With Connecticut's BioBus, the state begins to tackle what Harvard economist Porter calls one of CURE's most important tasks: to ensure its continued success in workforce development.

1. CURE Connecticut's BioScience Cluster. Fifth Annual Economic Report: 4 Years of Unparalleled Growth, April 2000.

Further reading:
Porter, M.E. Clusters and the new economics of competition, *Harvard Business Review* 76, 77–91 (1998).