



# Big Apple biotech

More start-ups may be sticking around in New York City, as the city looks to a new science park, prizes and tax breaks to help kick-start a life-sciences cluster. **Anne Harding** reports.

**N**ew York City is known as a fast-paced centre of finance, big business, fashion, the arts and, with the aid of several esteemed universities, education. It has never, however, been a centre for biotechnology or big pharmaceutical companies. To many, this is puzzling.

There's no shortage of brain power. The city is home to nine leading academic medical research centres — the largest concentration in the world. It also has the country's third-largest concentration of Howard Hughes Medical Investigators (after Boston/Cambridge in Massachusetts and California's San Francisco Bay Area). And eight New York City institutions were ranked in the top 100 nationwide for National Institutes of Health funding in 2008, pulling in a total of US\$65 billion. Spending for life-sciences research and development at the city's colleges and universities, at more than \$1.5 billion in fiscal year 2007, according to the National Science Foundation, was the highest of any city in the country. Five New York City institutions were ranked in the top 50 on the basis of total life-sciences research and development spending, compared with just two each in the Research Triangle Park area of North Carolina and in Boston.

For years, New York's public officials and business leaders have bemoaned the lack of a New York City biotech scene worthy of these rich intellectual resources. But the city's reputation as an under-achiever could be changing.

"We have, probably for the first time

in a while, some sort of hard assets and demonstrable progress we can point to," says Maria Gotsch, president and chief executive of the New York City Investment Fund (NYCIF), a private fund run by the Partnership for New York City, a non-profit organization of the city's business leaders. So far, the biggest asset is the East River science park, a collaboration between the New York City Economic Development Corporation (NYCEDC) and Californian company Alexandria Real Estate Equities, which is set to open this year. Gotsch and others hope the complex will encourage more biotech start-ups to put down roots in the city.

A lack of real estate suitable for research has been the main obstacle for commercial biotech. Sky-high prices make building research space from scratch prohibitively expensive; entrepreneurs can locate their research operations in nearby New Jersey or Pennsylvania much more cheaply. In 2004, there were just 10,400 square metres of commercial lab space in New York City; back then, Gotsch suggested that the city needed at least 90,000 square metres to become a serious biotech player. It will soon pass that benchmark: when completed, the East River science park alone will provide 94,000 square metres of lab and office space.

The park came into being through the efforts of a diverse coalition of financiers,

business leaders, academics, and city and state officials. Academics such as Harold Varmus of the Memorial-Sloan Kettering Cancer Center, Gerald Fischbach, then dean of Columbia University Medical School, and Robert Glickman, then dean at New York University Medical School, worked behind the scenes. One spur to action was a late-1990s study by the NYCIF showing that the city's institutions were spinning out new ventures at a respectable rate but that these companies weren't sticking around. "It was an area where there was such a strong base that was not being leveraged appropriately for economic development," says Gotsch. Alexandria Real Estate Equities took over the development

rights to a vacant parcel of land from New York University, and is spending \$700 million on developing the park. The city pitched in \$19 million and the state shelled out \$27 million for infrastructure.

The first tenant, Eli Lilly subsidiary ImClone Systems, will move in this summer, according to a company spokeswoman. ImClone is transferring its 125 scientists from their current home on the Lower East Side, and intends to hire more staff as needed.

When complete, the park aims to house 25 to 45 companies, employing about 2,000 people, most of whom will be scientists. The NYCIF is also offering loans of up to \$1 million at attractive interest rates to help companies



**Maria Gotsch: getting results.**

build biology and chemistry lab space there. Meanwhile, the city council has introduced a refundable 'biotech tax credit' for small biotech companies' facilities, operations and training.

Collaboration has also been key to developing BioBAT, a revamped army terminal on the Brooklyn waterfront now devoted to labs and office space. "We really started from scratch, and I mean scratch, from nothing," says Eva Cramer, president of BioBAT and the State University of New York (SUNY) Downstate's Advanced Biotechnology Incubator on the SUNY campus in Brooklyn. Cramer spearheaded the effort to build both the incubator and BioBAT; the state contributed \$42 million and the city \$12.5 million for BioBAT, and city, state and federal entities contributed most of the incubator's \$15-million cost.

### Eggs in the incubator

BioBAT's first tenant arrived in 2008 — the AIDS Vaccine Design and Development Laboratory of the non-profit International AIDS Vaccine Initiative, which has its headquarters in Manhattan. And seven biotech companies now operate in SUNY Downstate incubator's 2,200 square metres (another 2,400 are planned), including SUNY spin-out BioSignal and Apath, which moved last year to Brooklyn from St Louis. BioBAT will eventually offer nearly 49,000 square metres. New York City's other biotech incubator, Columbia University Medical Center's Audubon Business and Technology Park, located on the medical centre campus in upper Manhattan, also received government help, including \$11 million from the city.

The space available at Audubon convinced the biopharmaceutical development company Intra-Cellular Therapies to stay in the city after

outgrowing its old quarters. "We recognized at the very beginning that we wanted to stay in Manhattan," says Allen Fienberg, vice-president of business development at the company, which was founded in 2002 to commercialize Nobel laureate Paul Greengard's work on intracellular signalling pathways in the brain. The Audubon incubator has given Intra-Cellular room to grow, says Fienberg. The company's executives wanted to maintain collaborations with scientists in New York, and also to retain car-less postdocs who would have found the trip out to New Jersey or Pennsylvania difficult.

Space at the SUNY incubator helped convince Charles Rice to move his company to Brooklyn last year. Rice founded Apath, which develops therapeutics for viruses such as hepatitis C, in 1997 while at Washington University in St Louis, Missouri. He moved to Rockefeller University in New York in 2000, but kept Apath in St Louis until last year, when he decided to relocate the company to Brooklyn. He wanted to see if it would flourish in the more convenient New York location. None of his St Louis staff, however, wanted to make the move, citing high living costs and the potential challenges of raising children in the city. So Rice is looking for new recruits with experience in cell culture and virology who are bright, motivated and reliable, as well as "fearless and creative".

To capitalize on the proximity of Wall Street, groups such as the New York Academy of Sciences and the NYCEDC host forums

designed to connect scientists with business people. "Part of what we're doing is trying to go beyond the typical networking event, which is a lot of people looking for jobs," says Rene

Baston, chief business officer at the academy. Talks on business issues organized by Columbia Technology Ventures, an offshoot of the university, have drawn up to 150 people at a time, says Orin Herskowitz, vice-president of intellectual property and technology transfer.

The economic downturn has meant that cash for commercializing early-stage biotech is scarcer than ever, says Gotsch. But, she adds, Columbia, Rockefeller, New York University and the Albert Einstein College of Medicine are setting up funding to help their researchers through the 'valley of death' and successfully spin out companies. The NYCIF's

BioAccelerate Prize will provide up to \$250,000 each to university research teams doing commercially attractive work likely to yield new bioscience jobs. The total pool for the prize, co-sponsored by the NYCEDC, is \$1.25 million, and the NYCIF plans to run the competition twice a year. There were 64 applications from 10 institutions for the first prize, and the 12 finalists should be announced this month. Five to six prizes will be awarded.

These efforts won't create large numbers of life-sciences jobs right away, Gotsch concedes. But, says Tom Cirrito, vice-president of operations at Manhattan-based Stemline Therapeutics, 'virtual' biotech companies such as his with no need for lab space are already thriving in New York. Stemline, which develops drugs that target cancer stem cells, conducts all its research through collaborations with scientists elsewhere. Cirrito has just hired two new people, doubling the size of the small New York company. He plans to hire more, and is looking for scientists who are ready to leave the bench and help coordinate the company's far-flung research collaborations.

Despite its high costs, New York City has plenty of advantages as a biotech hub, argues Baston, virtual or otherwise. "Are there more immediate opportunities in places like the Bay Area and San Diego and Boston? Yes, absolutely, but as some of the big pharma companies are starting to realize, there's a lot more competition there too," says Baston. "With a little patience and a little persistence, this could be a fantastic place for young scientists who are interested in the biotech business."

**Anne Harding is a freelance writer in Maplewood, New Jersey.**



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— Rene Baston

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Vision of the future: artist's impression of the East River science park, set to open this year.

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