

# CAREERS

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The opening of the Scripps Research Institute's campus in Jupiter, Florida, was the start of an influx of bioscience to the state — a flow that has now slowed.

FLORIDA

## Second thoughts

*The sunshine state's rush to become a bioscience player started with a bang. Now it faces more realistic expectations.*

BY SARAH KELLOGG

Eight years ago, Florida's officials wanted to transform the state into a bioscience powerhouse, hoping that it would become known for more than just beachfront retirement apartments and cartoon-themed amusement parks. So they launched a bold initiative to swiftly build world-class bioscience clusters in the region. The plan has cost the state and local governments more than US\$1.5 billion, sparked significant growth in Florida's once-sleepy biotechnology industry — and left many expecting more. The promise of a robust industry with new jobs, research funding, patentable discoveries and royalties has yet to be fully realized. That is frustrating for a state grappling with a lacklustre economy and severe budget shortfalls.

Nevertheless, Florida's bioscience investment has brought in some recruitment, federal funding, public-private partnerships and start-ups, albeit more slowly than many would like. "Florida was not much on the radar of the international scientific community when all this started," says Claudia Hillinger, vice-president for institute development at the Max Planck Florida Institute in Jupiter, a brain-research centre and the first US campus of the German Max Planck Society. "That has changed in the last three years. Things are starting to develop and evolve, but I think we're going to need a bit more patience from everyone," she adds.

### AN AMBITIOUS START

When Florida launched its effort to promote bioscience in 2003, the US economy was thriving. Then-Governor Jeb Bush (Republican)

was on a personal mission to restructure Florida's financial landscape for the twenty-first century, and the state was flush with private and public funds.

The initiative — comprising generous government subsidies and aggressive recruitment — proceeded quickly. Life-science clusters, mostly in central and southern Florida, emerged in cities commonly associated with orange groves and sandy beaches (see *Nature* 446, 1112–1113; 2007). Respected senior researchers and promising postdocs headed to the region, their ambitions limited only by their imaginations. State and local incentives, including direct grants and tax breaks, drew prestigious research institutions. The Scripps Research Institute, a biomedical-research centre headquartered in La Jolla, California, received \$579 million in combined subsidies to open Scripps Florida in Jupiter; the Sanford-Burnham Institute for Medical Research, also headquartered in La Jolla, drew \$310 million to open a centre in Orlando; and the Max Planck Society got \$188 million for its Florida campus. Almost overnight, Florida shot from its bioscience infancy to adolescence.

The *Battelle/BIO State Bioscience Initiatives 2010* report from Battelle, an independent research firm based in Columbus, Ohio, showcases Florida's good early track record. ▶

► The state ranks 6th in the country for the number of bioscience jobs held in 2008, with 27,960; and 17th in terms of US National Institutes of Health grants received in 2009, with \$466 million. Florida's biotech jobs pay well, with an average salary of \$55,264 in 2008, compared with \$39,596 for private-sector jobs overall in the state, the report found.

Scripps Florida was the first organization to come on board, with temporary labs opening in 2005 and a dedicated campus launching in 2009. It showed that Florida was serious about bioscience, convinced other institutes to follow its example, and spurred interest in innovative partnerships with private companies hoping to exploit translational research. It currently has 40 principal investigators and 450 staff members, and plans to increase those numbers to 60 faculty members and 545 staff by 2014. It is seeking researchers with expertise in cancer biology, metabolism and ageing, and molecular therapeutics, among others. "Since we've been here, \$200 million of federal money has come to us and the state," says Harry Orf, vice-president of scientific operations for Scripps Florida. "This is entirely new money coming into the state, and we continue to secure more."

### HOBBLED BY THE ECONOMY

Sustaining such intense growth is difficult. Many of the public officials who championed biotech investment have left office; federal research funding has diminished; and Florida's government is strapped for cash. The state is keeping its early financial commitments to institutes, but other investments have slowed.

In 2010, the Florida legislature's Office of Program Policy Analysis and Government Accountability released a report — *Biotechnology Clusters Developing Slowly* — examining the sector. It noted that in 2008, 57% of Florida's biotech employment was in the counties hosting the research institutes, which have promised the state at least 1,100 highly paid research positions. But the report pointed out that the investment "has not yet resulted in the growth of technology clusters in the counties where program grantees have established facilities".

These conclusions reflect the ravages of high expectations and a floundering economy. "I think we're looking at a different strategy going forward," says Russell Allen, president and chief executive of BioFlorida, the state's bioscience trade association. "I don't anticipate we'll see hundreds of millions of incentive dollars any time soon. I'm not sure that would be our next best step anyway. We've proven we can build a research base. Now it's about creating jobs."

In May, Florida lawmakers approved a 2011–12 budget that allocated \$3.48 billion to the state's 11 public universities — a 4% drop from the 2010–11 budget. This is the fourth year in a row that universities have seen a cut in state funding, and they have had to implement hiring freezes, tuition-fee increases and budget cuts. This year, to further trim state

spending, Republican Governor Rick Scott ordered cuts of a total of \$615 million from the overall proposed budget, including \$6 million to build a University of Florida research facility in Lake Nona, \$6 million to complete the applied science building at Florida State University in Tallahassee, and \$6.3 million to build the University of Central Florida's interdisciplinary research and incubator facility in Orlando. He also vetoed \$2 million in new money for obesity and diabetes research at the Sanford-Burnham Institute.

"From a funding perspective, we all wish things were different," says Ryan West, director of talent and economic development at the Florida Chamber of Commerce. "I heard no legislator take any pride or joy in reducing funding levels for any of these institutions or reducing the investment overall in the biosciences. Nobody is happy about it."

Funding anxieties seem to have contributed to the collapse of a deal in June, when, owing to a lack of state investment, the Jackson Laboratory genetic-research firm in Bar Harbor, Maine, withdrew a bid to build a lab in Sarasota County. "We were invited to submit a much-reduced proposal to the [state], but the amount available ... and the uncertainty of future funding, made such a venture too speculative to undertake," says Charles Hewett, Jackson Lab's executive vice-president, in a written statement.

To encourage the private sector, the state is looking beyond direct financial support to regulatory changes and tax incentives that could foster biotech growth. In early 2011, lawmakers approved an annual corporate income-tax credit, similar to an extant federal programme, for companies that invest in research and development in Florida. "Growing this sector occurs from a lot more than providing financial support," says Stuart Doyle, a spokesman for Enterprise Florida in Orlando, the state's main economic-development agency.

### A DEARTH OF VENTURE CAPITAL

The biggest potential obstacle to sustained long-term growth in Florida biotechnology is a paucity of in-state venture-capital firms willing to invest in biotech start-ups. "The state works very hard to help companies like ours, but you're just not going to find the savvy level of investor you find in California or New York," says Marilyn Bruno, founder and chief executive of Aequor, a start-up biotech company

in Coral Gables. Bruno is seeking investors to develop environmentally friendly compounds that halt bacterial contamination on a wide variety of surfaces, ranging from boat hulls to skin. "Why should they invest in a risky biotech start-up they don't understand if they can buy condos on Miami Beach and make a mint?" she asks.

Florida's State Board of Administration has been authorized to invest up to 1.5% of the net assets of the state retirement-system trust fund in technology and high-growth investments. And in 2007, the state set aside \$29.5 million for the Florida Opportunity Fund, created to underwrite in-state venture-capital firms. It has committed most of its resources to companies and hedge funds that support information technology, homeland security, defence and biotech start-ups in the state. But allowing the money to be used so broadly has diluted the fund's influence, says Bruno.

### PORTENDING PROMISE

Despite the obstacles, Florida's bioscience efforts are bearing fruit. A cluster is growing in Orlando, where the Sanford-Burnham Institute opened an \$85-million building in May; it anchors the Lake Nona Medical City, including the University of Central Florida College of Medicine, Nemours Children's Hospital and the Veterans' Administration Medical Center, both slated to open in 2012. Once completed, the Medical City is expected to employ some 30,000 scientists, administrative staff and others.

"If you simply look at Sanford-Burnham employees, about 300 people, that doesn't seem like many jobs," says Daniel Kelly, scientific director for the institute. But "the point is we're part of the engine that runs this entire cluster. It's important for credibility," he says. "It's important for investment."

Cooperation between Florida universities and institutes has helped to draw recruits from more established entities, says David Fitzpatrick, chief executive and scientific director of Max Planck Florida, who left Duke University in Durham, North Carolina, for his Florida post in January this year. "It wasn't easy for me, leaving Duke," says Fitzpatrick. "But this was an opportunity to set up an institute and to take it in a direction that I think is very exciting." Max Planck Florida expects to employ a total of 150 staff members by 2015, with 12 directors and research-group leaders, 114 other scientific staff members and 24 in administration.

Ultimately, the newness of Florida's biosciences sector is both its greatest selling point and a notable hurdle, say observers. Regardless of early and continuing growth, Florida's bioscience clusters are untested commodities, and it will take years to determine whether the state has turned a strategic investment into a flourishing industry. ■

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Claudia Hillinger