

WHEN BREAKTHROUGHS

HAPPEN



From left: Georgia Research Alliance Eminent Scholars Lin Mei (top) of Georgia Regents University; Rafi Ahmed (right) of Emory University; William Koros (left) of Georgia Institute of Technology.

In Atlanta, the world's top scientific talent can get their discoveries to the marketplace. **By Van Jensen**

There was no way Rafi Ahmed was moving to Atlanta. It was 1995 and he was a star immunology professor at UCLA. Ahmed loved Los Angeles—he still calls it his favorite city—but more important, his wife and children loved their home, their schools, their lifestyle. So when Emory University came calling, trying to recruit Ahmed to Atlanta, the answer was obvious: no.

But Ahmed agreed to at least hear the pitch, and what he heard intrigued him. Emory's leaders had a vision of creating a vaccine center that would be supplied with every resource to become an international leader. All they needed was a renowned academic to build it and serve as its director.

When Ahmed came to Atlanta on a recruiting visit, he visited with the governor, who made it clear that Georgia wanted to become a biosciences leader and Ahmed could help the state get there. He toured the offices of the Centers for Disease Control and Prevention—a huge resource for virology that happened to be right next door to Emory.

Despite the fact that Emory's leadership hadn't even secured the 10,000 square feet of lab space they promised for the center, Ahmed accepted the offer. "Almost everyone told me I was crazy, including my wife. I went a little bit by instinct," he says. "I had the feeling we

could achieve great things." In the nearly 20 years since then, the Emory Vaccine Center has grown into a world leader, generating pioneering research with potential impacts in several diseases, including some of the most promising developments in cancer treatment.

Ahmed's research group also spun off the company GeoVax, which has generated 122 jobs, \$225 million in funding and 14 patents. GeoVax is now entering phase two of clinical trials of a drug that holds significant promise in the treatment of AIDS. "It took a lot of faith," Ahmed says. "But the center is much bigger, much better than I dreamed."

Rock Stars of Science

The Vaccine Center's growth is part of a larger story of how Georgia has slowly and steadily built itself into a leader. As Ahmed puts it, if he had been choosing simply between Emory and UCLA, he would have stayed in sunny California, but when he came to Atlanta, he saw an entire state committed to building a new biotech infrastructure.

Its commitment grew out of failure. In the early 1980s, Georgia's business and government leaders bid to bring the headquarters for Microelectronics Computer and Technology Corporation to the state. Instead, the consortium chose Austin, Texas, which became an electronics industry hotbed. In the wake of that failure, prominent businessmen Larry

DID YOU KNOW?

Don Giddens built the Coulter Department of Biomedical Engineering at Georgia Tech and Emory University into a national leader in only six years. He is a GRA Eminent Scholar recruit.



ROI with a twist

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Jim Ross

Chief technology officer, Axion Biosystems

Jim Ross joined the Wallace H. Coulter Department of Biomedical Engineering, a joint venture between Georgia Tech and Emory University, as a doctoral student. While earning his degree, he laid the groundwork for his start-up, Axion Biosystems, which develops cutting-edge microelectrode array systems.

How did you transition from research into building a company?

As part of a research grant, we were building neural interface technologies. We thought we had the chance to build something really powerful. For us, commercialization became an engine to make a big difference in human health.

How did Atlanta's entrepreneurial environment influence Axion's development?

There's an energy here that inspires you to think about what you can do with the research you have. There's a lot of nurturing that goes on to take ideas and young, inexperienced talent and direct it in a way that can be successful.

How did the Atlanta community support you?

Through the Georgia Research Alliance, we pursued a \$50,000 seed grant. Following that, with coaching from the GRA and the Advanced Technology Development Center, we acquired a small business research innovation grant, which resulted in almost \$500,000 in funding. The GRA also connected us to Axion president and CEO Tom O'Brien, who was recruited by the GRA to help start a company.

What Atlanta innovators have inspired you?

While I was in graduate school, CardioMEMS made me realize that starting a company was a real possibility. I've also been impressed with MedShape. They have a great team that expertly navigates the tricky terrain of developing life-changing technology while growing a company. —V. J.



GRA Eminent Scholar Andrew Mellor (left) of Georgia Regents University

Gellerstedt and Tom Cousins—alumni from bitter rivals Georgia Tech and the University of Georgia, respectively—came together with a proposal to unite business, government and academic institutions in a common mission of building up research in the state. They wanted to stimulate the type of research-based technology advances that had led to business growth in Silicon Valley and the Research Triangle of North Carolina.

It led to the creation of the Georgia Research Alliance, tasked with building up the capacity for cutting-edge research by recruiting prominent scholars and providing them with the necessary tools and facilities.

In the GRA headquarters in downtown Atlanta, 65 color photos hanging in perfect symmetry cover a wall. They're portraits of GRA Eminent Scholars, top academics mostly in the biosciences but also in advanced communications, energy and advanced materials, recruited to Georgia universities by GRA endowments. Eminent Scholars have had a hand in creating two dozen centers of excellence, starting more than 150 companies and bringing in more than \$2.6 billion in federal funding and private support—a handsome return on the state's \$600 million in funding.

The GRA contributed funding to hire Ahmed as an Eminent Scholar and provided \$2.5 million toward the physical space of the Vaccine Center. "Recruiting Rafi was a bold effort," says GRA president and CEO Mike Cassidy. "Emory was willing to be bold. We committed to the vision, to building something big, a magnet to attract like minds." The GRA also helped convince Ahmed's wife that

Atlanta would be good for their family. Bill Todd, then the GRA's president, helped secure the couple's two children spots in a private school. "The right wheels were greased," Ahmed jokes. In all, GRA has put about \$25 million into the Vaccine Center, which now has 25 faculty members, including five Eminent Scholars.

Great Partnerships

The state's collaborative effort to build a biosciences community has had a noticeable impact on the campus of the Georgia Institute of Technology in Midtown Atlanta, where an entire complex of buildings has sprung up to house scholars and researchers.

At the center of it is the Parker H. Petit Institute for Bioengineering and Bioscience, which began operation in 1995. The facilities were built using private donations and state funds, and the GRA supplied instrumentation used by 140 faculty members and more than 1,000 students. The institute's goal is to bring together faculty members from different colleges or schools over shared research interests, says director Robert Guldberg.

It provides seed money for research ventures, but it requires interdisciplinary collaboration to receive any funding. Researchers then leverage that initial funding to earn more substantial federal funding. "We have high-quality people, but that's just part of it," Guldberg says. "MIT and Stanford have good

DID YOU KNOW?

Emory University researchers developed two of the most common HIV/AIDS drugs, taken by more than 94 percent of patients in the United States.

PHOTOS: [THIS PAGE] GARY WIECK (JIM ROSS); [NEXT PAGE] ANDREW DAVIS/TUCKER

people, but they aren't as good at partnering."

With its background in engineering, Georgia Tech has been an ideal partner for Emory, which doesn't have an engineering program but does have a prominent medical school. Through a joint biomedical engineering program, the two have made breakthroughs in medical devices and treatments.

There's also the pharmaceutical company Baxter International, which announced last year that it had selected Covington, Georgia, for a facility to manufacture plasma-based therapies (a capital investment of \$1 billion+ over the next five years). It cited the region's transportation infrastructure and state support through a program called Georgia Quick Start, which will open a biotech work force training center near the Baxter facility to supply some of the needed 1,500 employees.

"The program provides residents training in classrooms, mobile labs and directly on the plant floor," says Baxter spokesperson Brian Kyhos. "Quick Start representatives have worked with pharmaceutical and medical device manufacturers in the past and have expertise in key areas of biotechnology."

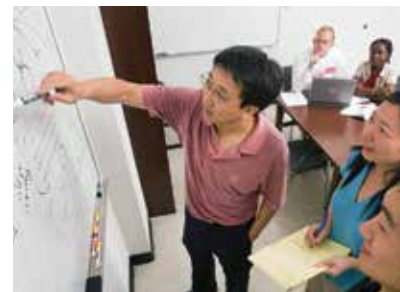
Baxter will bring high-paying manufacturing jobs, and the biomanufacturing train-

ing facility is expected to attract additional companies to the state. Russell Allen, president and CEO of Georgia Bio, a membership-based group that represents and promotes the life sciences industry, calls the addition of Baxter a "big momentum shift" for the state.

On the start-up front, the GRA is helping recruit experienced CEOs to work with biotech start-ups, essentially acting as a matchmaker. Ahmed remembers when Cassidy introduced him to Don Hildebrand, who at the time was CEO of a company in Athens, Georgia, that manufactured veterinary vaccines. The two kept in touch, and when Ahmed and his team needed an experienced businessperson to lead GeoVax, they turned to Hildebrand, who was looking for a new opportunity. "He had a huge level of expertise," Ahmed recalls. "I don't think we would have attracted him with only an advertisement for the job."

Twenty years ago, no one knew about biosciences in Georgia. Now when Ahmed recruits others to join his team, they already know all about the GRA and the Vaccine Center. As he considers all that has been built, he smiles. "It's even hard for me to believe," he says. //

GRA Eminent Scholar Ying Xu's lab at the University of Georgia



THE PRODUCER



These days, being "well-rounded" is more important than ever. Take the University of West Georgia's new president, Dr. Kyle Marrero. He's a seasoned administrator, a dedicated family man, and an opera impresario all rolled into one.

"The passion to serve as a leader in higher education comes from the same place that drives my love for the performing arts," he explains. "Both are about vision, communication, strategy, goal setting and performance." He's excited about joining the West Georgia family—and the local community.

"My first visit to UWG was a couple of years ago," Kyle says. "I was impressed with the facilities, but, more importantly, by the fact that the faculty and staff truly care about the institution and the students. UWG was the only presidential position for which I applied. Nothing else out there was as interesting and exciting."

And he's clear about his mission for UWG:

"I believe in the simple premise that we in higher education are in the business of transforming lives. It is our responsibility to prepare students for success—in all facets of life."

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