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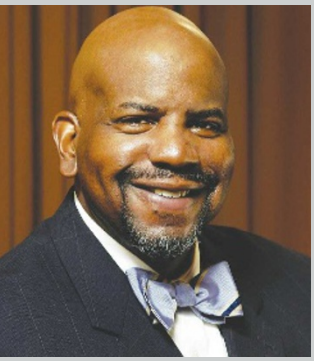
MOVERS

Cato Laurencin, vice-president for health affairs, University of Connecticut Health Center, and dean, University of Connecticut School of Medicine, Farmington



2003–08: Professor and chair of orthopaedic surgery, professor of biomedical engineering and chemical engineering, University of Virginia, Charlottesville
2001–03: Professor of chemical engineering, vice-chairman and clinical professor of orthopaedic surgery, Drexel University, Philadelphia, Pennsylvania

Cato Laurencin says his mother's medical practice and small home laboratory inspired his career as a clinician-scientist. But a dinner sponsored by his high school steered him into combining medicine and engineering: there, New Jersey's Princeton University recruited Laurencin to study chemical engineering alongside his medical school prerequisites.

From Princeton, he went on to Harvard Medical School and, while there, did a joint engineering PhD at the Massachusetts Institute of Technology under famed bioengineer Robert Langer. For his dissertation, Laurencin developed a polymer-based drug-delivery system; these better preserve a molecule's bioactivity after it enters the body than do traditional pills. This led to a drug-delivery system for patients with brain cancer. "Cato's work established how to do Food and Drug Association-relevant work, including safety studies needed to take a new biomaterial into clinical practice," says Langer.

To graduate from Harvard with high honours, however, Laurencin needed a thesis project. He showed that inorganic polymers called polyphosphazenes could control drug delivery better than traditional polymers. "Reaching for that honours degree proved vital to my career — spawning a long-term collaboration, multiple papers and patents, and a long-running National Institutes of Health grant," says Laurencin.

After Harvard, Laurencin spent a year in sports medicine at Cornell University in Ithaca, New York, then joined the Medical College of Pennsylvania's Hahnemann University, which soon merged into Drexel University. There, he started the Center for Advanced Biomaterials and Tissue Engineering and helped usher in a new frontier in orthopaedic surgery — biodegradable polymer materials for fracture repair and tissue engineering.

Laurencin left Philadelphia in 2003 to join the University of Virginia, but carried his sports-medicine work with him. He developed therapies to repair soft tissues such as the anterior cruciate ligament in the knee. Laurencin's newest work uses polymer-based drug-delivery systems and nanotechnology to enhance bone and tissue regeneration.

Having held high-level positions in both medicine and engineering at several universities, Laurencin ultimately decided he could have the greatest clinical impact as dean of the University of Connecticut School of Medicine and as vice-president for health affairs at the university's Health Center. The university's programmes in musculoskeletal medicine and stem-cell technology made it a natural fit for him. ■

Virginia Gewin

NETWORKS & SUPPORT

A route to postdoc diversity

Many programmes aimed at drawing ethnic minorities into science emphasize the early stages of a scientific career. But universities are still struggling to increase faculty diversity because of a lack of candidates. A postdoc programme started almost 30 years ago at the University of North Carolina (UNC) has shown considerable success in bridging that gap. Of the programme's 132 graduates, 113 have gone on to land tenure-track faculty positions — 27 of them currently at UNC.

The philosophy behind the Carolina Postdoctoral Program for Faculty Diversity, based at UNC's Chapel Hill campus, is to groom newly minted PhD students for academia. And the programme has not only assisted its participants' professional development; it has also helped UNC to increase the minority representation in its faculty, says Tony Waldrop, the university's vice-chancellor for research and economic development.

The programme is funded by the state, and supports 10 postdoc fellows at a time for two-year periods. Each receives a $36,000 stipend, healthcare benefits and a small research fund. Competition for places is fierce, with five scholars selected a year from around 130 applicants. Because the quality of the chosen fellows is so high, the university's academic departments "fall over each other" to get one of them, Waldrop says.

The ten fellows meet monthly for social gatherings, workshops and speakers. Besides providing peer support, the small group meetings allow "great access to very high level officials at the university", says past-participant Keith Esch. A Native American and a biochemist, Esch now works at RTI International, a private research institute in North Carolina's Research Triangle Park, and is an adjunct assistant professor at UNC.

For others, the luxury of time that the programme affords is key. "My main professional weakness is a lack of publication records," says Fred Hall, an African-American based in the department of physics and astronomy who is one year into the programme. It allows him to focus on writing, unhindered by teaching responsibilities.

Past participants' academic track records show that the fellows do more than just get onto the tenure track. Many have advanced into management positions, in which minorities are even less well-represented nationally. Nine are department chairs and 18 have held higher administrative positions. ■

Jill U. Adams

POSTDOC JOURNAL

Winning a plant campaign

I'm going into battle — with tomatoes. I trudge daily through a field of 3,000 plants of varying genetic constitution with which I am trying to conquer and, ultimately, expose how inflorescences — the branching structures where flowers are produced — develop. My 'to do' lists comprise a plan of attack. My weapons are a pencil, tags, a pair of tweezers and the pollen that I move from plant to plant. And the plants and the field are my opponents, mounting perilous counter-attacks.

Just last week I lost precious crossbreeds to a blown-out irrigation pipe and an early infestation of a notorious virus-transmitting fly. This is a major setback, because, on average, I have only two growing seasons a year. My fellowship has taught me to think ahead, beyond the end of this season to the next, with a vision for the end of the war. In many cases, the crosses I make now will need to go through four more generations before I see any results, so having this vision is a key component of my research programme.

When I started my postdoc, I made a list of long-term research plans, which, not surprisingly, has been modified as battles have been lost and won. After three years, I am confident I have learned to fight my battles well, but only time will tell if I will win the war. ■

Zachary Lippman is a postdoctoral fellow at the Hebrew University of Jerusalem's faculty of agriculture.