

In HIV vaccine research—where the stakes are high both scientifically and financially—it is rare to find a scientist as universally liked as Dennis Burton. Tempering deep ambition with a deeper sense of integrity, Burton walks the fine line between competition and collaboration.

Dennis Burton

Every Wednesday and Friday, you can find Dennis Burton walking around his lab in soccer shorts and cleats. For years, the immunologist has religiously played soccer twice a week. Off the field, Burton has a reputation as a laid-back researcher and the best collaborator anyone could ask for. But on it, says Anthony Williamson, who has worked with him for nearly 15 years, Burton is fiercely competitive. “He plays dirty—and I have the bruises to prove it,” Williamson says, joking.

That Williamson can openly tease his mentor is a testament to Burton’s famous good humor. Members of his lab at The Scripps Research Institute have over the years staged elaborate practical jokes with and on Burton. His cheerful, tolerant attitude has ensured that his lab is populated with people who have either always worked with him, or have left and returned after postdoctoral appointments elsewhere.

In the last five years, his research team—and the funding it has access to—has nearly tripled. He is now widely considered a front-runner in the HIV vaccine field and the world’s leading expert on antibodies. Last year, the International AIDS Vaccine Initiative named Burton director of its Neutralizing Antibody Consortium, which includes such research heavyweights as John Moore, Joseph Sodroski and Gary Nabel.

Friends, colleagues and rivals all describe Burton as a scrupulously thorough, fair and honest researcher. Through the consortium, Burton has also fostered a spirit of cooperation and collaboration, they say. “I really think he’s doing great work and people should stand up and pay attention,” says Ronald Desrosiers, an HIV vaccine researcher at Harvard Medical School. “I don’t give compliments easily, but I’ve been saying a lot of good things about Dennis lately.”

A strong, analytical scientist like Burton is particularly valuable in the HIV field, which is full of “gee-whiz stuff,” says Richard Lerner, president of Scripps, and Burton’s mentor. “A dra-

matic public health problem [like AIDS] brings out all the flakes,” Lerner says. “[Burton] takes a very calm scientific approach to the problem.”

In the recent controversy over results from VaxGen’s HIV vaccine trial (see page 376), for example, Burton has openly criticized the company’s decision to proceed with what he says was a long shot. “If you believe in science, you don’t believe in just trying anything,” he says. “There was no science underlying the use of this as a vaccine candidate.”



Burton says he hopes to contribute in some significant way to finding an effective AIDS vaccine. He and others have characterized a few antibodies that can broadly neutralize HIV. His lab is now engaged in working back from those antibodies to an immunogen that can elicit them—an approach he calls retrovaccinology.

Burton began his career at the University of Sheffield in the UK. In July 1989, he arrived at Scripps, in La Jolla, California, for a sabbatical in Lerner’s lab. He remembers the months that followed as the happiest times in his scientific career. “It was very nice—beautiful weather, the beaches, we had small children—I mean it was just so simple, it was completely uncomplicated,” he says.

At the time, Burton and several others in the Lerner lab were trying to make recombinant human antibodies. “There was a great spirit in the lab of the people working together toward this common aim,” Burton says. “It was just enormously rewarding but also, it was very

clean somehow.”

Those months of work led to Burton’s “single biggest ‘Eureka’ moment” and a celebrated paper in *Science*. Nearly 15 years later, Burton still describes the moment of discovery with startling detail and sentimentality. One morning that October, he says, he came in and saw a series of spots on radioactive plates. “What that meant is we’d made recombinant antibodies outside of animals and here they were,” Burton says. That afternoon, the lab celebrated with champagne and Burton wrote the date on the bottle. He still keeps the bottle in his kitchen cupboard. “I think [I kept it because] it would always tell me the date on which we’d accomplished this project,” he says. “It was a special time.”

Even now, Burton says, he values a spirit of teamwork above all else. “In the [HIV] vaccine field, I really don’t feel we have rivals,” he says. “There is a duty of researchers to help one another get to [a common] goal—I think most people feel that.” Although most of his colleagues politely disagree with that assessment, nearly all say Burton is competitive only in that he motivates himself and his rivals to do their best.

Burton may have another opportunity to sublimate his competitive spirit. His second son is a champion golfer and a student at the David Leadbetter athletic academy, which has trained the likes of Andre Agassi and the Williams sisters. From his office, which overlooks the ocean and the world-famous Torrey Pines golf course, Burton often watches Tiger Woods roam the fairways during tournaments. Does he hope, as his friends tease him, that his son might someday be the next Woods? “Well, that would be nice,” Burton says with a sheepish grin, before the rational scientist in him reasserts itself. “But you can’t rely on things like that.”

What you can rely on, says Williamson, is Burton’s unwavering spirit. And if reserving all his aggression for the soccer field helps maintain his good humor in the lab, Williamson adds, “he had better just keep playing.”

Apoorva Mandavilli, La Jolla