

## David Bynum: Renowned Educator Wins Presidential Award

BY LORRAINE DROUIN

Who is the Pied Piper of the academic world who's responsible for attracting more than 15,000 Long Island middle and high school students to Stony Brook University (SBU) to perform molecular biology experiments? He's David Bynum, the founder and director of the Long Island Group Advancing Science Education (LIGASE).

Associate professor of biochemistry & cell biology at Stony Brook University, Bynum has devoted the last 15 years to expanding LIGASE's programs and obtaining funds to finance them. Among the many programs he has helped create are the Master's Degree in Biology Teaching program at SBU; partnerships between SBU and local community colleges; the Outreach Program that lends laboratory equipment to area high schools; in-service teacher workshops; a summer science program; and the Biotechnology Teaching Laboratory that invites students as young as middle-school age to participate in laboratory exercises.

Bynum is nationally recognized for transforming biology education through hands-on research and developing programs to provide research opportunities to underrepresented students. His successes recently won him the coveted Bruce Albert Award from the American Society for Cell Biology as well as the prestigious Presidential Award for Excellence in Science. He was one of 10 scholars awarded for having increased the participation in the sciences of women, members of minority groups and students with disabilities.

We recently sat down with this pioneer and asked him a few questions:

**How have you been able to accomplish so much?** First you have to have the ideas, but I didn't do it all alone. I work with a lot of very good people.

**When did you first take an interest in science?** I was raised in Oklahoma. That's why I still love the outdoors so much. I think it was roaming around in the fields seeing fossils and arrowheads and things that were fascinating, reading about astronomy, reading the almanac. There wasn't a lot of obvious science. I grew up with business people. Practically everyone in Oklahoma was involved in some phase of the oil industry from running pipelines, refining, trucking or marketing.

I always had an interest in science and mathematics, but I didn't know anything about making a living in science, so I majored in mathematics and got my undergraduate degree at Westminster College in Missouri then got involved in the oil industry.

**Do you feel that you have arrived or are there still dreams out there to accomplish?** If you have arrived, you might as well cash in your chips. Success is fun, don't get me wrong, but the real fun is in the seeking and in the journey trying to obtain something. The real challenge is in the work, like if you're running in a race, the real work is done on the track by yourself beforehand. It's fun to succeed, but you have to enjoy the journey.

As for work yet to be done, I've been to Albany to look into a statewide grant. For the past two years, we've packed up our biotech lab and taken it to Stony Brook Manhattan on 34th Street and Park Avenue South, to see if we could build a relationship with the city high schools, kind of a beachhead.



Photo by Jeanne Neville, courtesy of Stony Brook University  
David Bynum works in the lab with students from Brentwood and Central Islip high schools analyzing polymerase chain reactions in DNA.

We've established a good relationship with four or five high schools in Manhattan. They've brought their students in and they've spent the day learning skills in electrobiology and forensic laboratory. It was exciting and educationally relevant material they needed for the Regents science exams. The evaluations for the students and teachers were outstanding.

President Bush's program, No Child Left Behind in education, that's our top priority. We want to make quality education and science available to everyone. We are looking for ways to work productively with schools, to help teachers get the material and skills so they can take it back to their classrooms. That's something we really care about.

**Precisely, what do students learn in these studies?** You learn how to manipulate genetic material. You learn to isolate DNA. You see if certain genetic material might have certain genetic information. The value is explosive, you can see what's happening with the biotech industry.

**Are there any lectures on bioethics accompanying these courses?** The medical school just gave a lecture on bioethics. It's extremely important but there's not enough out there. The challenge is a risk-reward situation. How do you weigh that? It will have to be rigorously sought out by people on both sides of the fence. It's just a heck of a challenge.

**What kind of advice would you give parents-to-be about helping their children choose a career?** Whenever you see a youngster with a healthy interest in something, they should be encouraged. I think that's one of the real blessings of being the older generation, being able to have that kind of impact, to shorten the learning curve in what they want to pursue. But letting go enough to let them face their future, how they want to live their life, for better or worse, is not something parents can enter into with their offspring.

If I can sum up a philosophy of life, it's to add as many positive hits to the process without doing too much damage.