

# A&T Agricultural Engineering Program on Cutting Edge

By JOYA WESLEY  
Special to THE CHRONICLE

**GREENSBORO**— The 73-year-old program now known as Agricultural and Bio-Systems Engineering at North Carolina A&T State University offers students the best of the old and the new.

While it benefits from its years of experience conducting research and turning out graduates prepared for work serving agriculture — the world's largest and most important industry — it also has evolved to remain on the cutting edge of technology. The program, established in the School of Agriculture in 1925 and called Agricultural Mechanization, has undergone several alterations and name changes over the years. Today, it is a nationally accredited joint venture between the School of Agriculture and the College of Engineering.

Thanks to that link, which allows for sharing of faculty and other resources, the program now encompasses such cutting-edge fields as artificial intelligence, bioprocess engineering, computer-aided design, renewable energy generation, water resources engineering, water quality modeling, geographic information systems and precision agriculture.

"What we've tried to do is change to meet the needs of society and to make our students more marketable," says Dr. Godfrey Gayle, chairman of A&T's Department of Natural Resources and Environmental Design, which houses the program.

The program will graduate 6 students next month. Three will graduate magna cum laude and three will graduate summa cum laude.

Graduates are currently working for the U.S. Department of Agriculture, the Forest Service and Natural Resources Conservation Service, as well as for private companies in environmentally-related fields. "Most of

our students move on to graduate school," Gayle says. "All of the students graduating this year have offers to move on to the graduate school of their choice."

Past A&T graduates have gone on to universities with prestigious agricultural engineering programs including Penn State, Illinois, Iowa, North Carolina State, Virginia Tech and Purdue. "Some of these schools are actively recruiting graduates from the program," Gayle says.

Gayle, a native of Jamaica, earned his own bachelor of science degree in agricultural engineering from A&T before going on to complete his master's and doctorate at North Carolina State University. In 1982, he became the first African American to receive that school's Ph.D. in Biological and Agricultural Engineering and only the fifth African American in the nation to earn the degree. Currently, he is one of only 12 to hold that degree.

Since minorities are so severely underrepresented in agricultural engineering, Gayle has made it a mission to recruit minorities and women into the field.

"Increasing enrollment is priority one at this time," he said, adding that he is not confining his recruitment efforts to traditional students. "The new interest that we're seeing now is from non-traditional students who want to be retrained."

He says many top-performing students have been attracted to the program because of its union with the College of Engineering, which was established in 1991 under the leadership of Dr. Harold Martin, who was dean of the College of Engineering at the time and now is Vice-Chancellor for Academic Affairs.

In 1991, the program became the first of its kind at an historically black college or university to be accredited by the Accrediting Board for Engineering and Technology. This makes the graduates eligible for professional engineering licensure and to be

hired as engineers. Graduates of the program are making A&T proud all around the country, and spreading the program's reputation.

Gayle says he has often gotten positive feedback on the performance of graduates. TaShara Bailey, a recent graduate who is an environmental officer with the public works department in Grand Rapids, Mich., is one example.

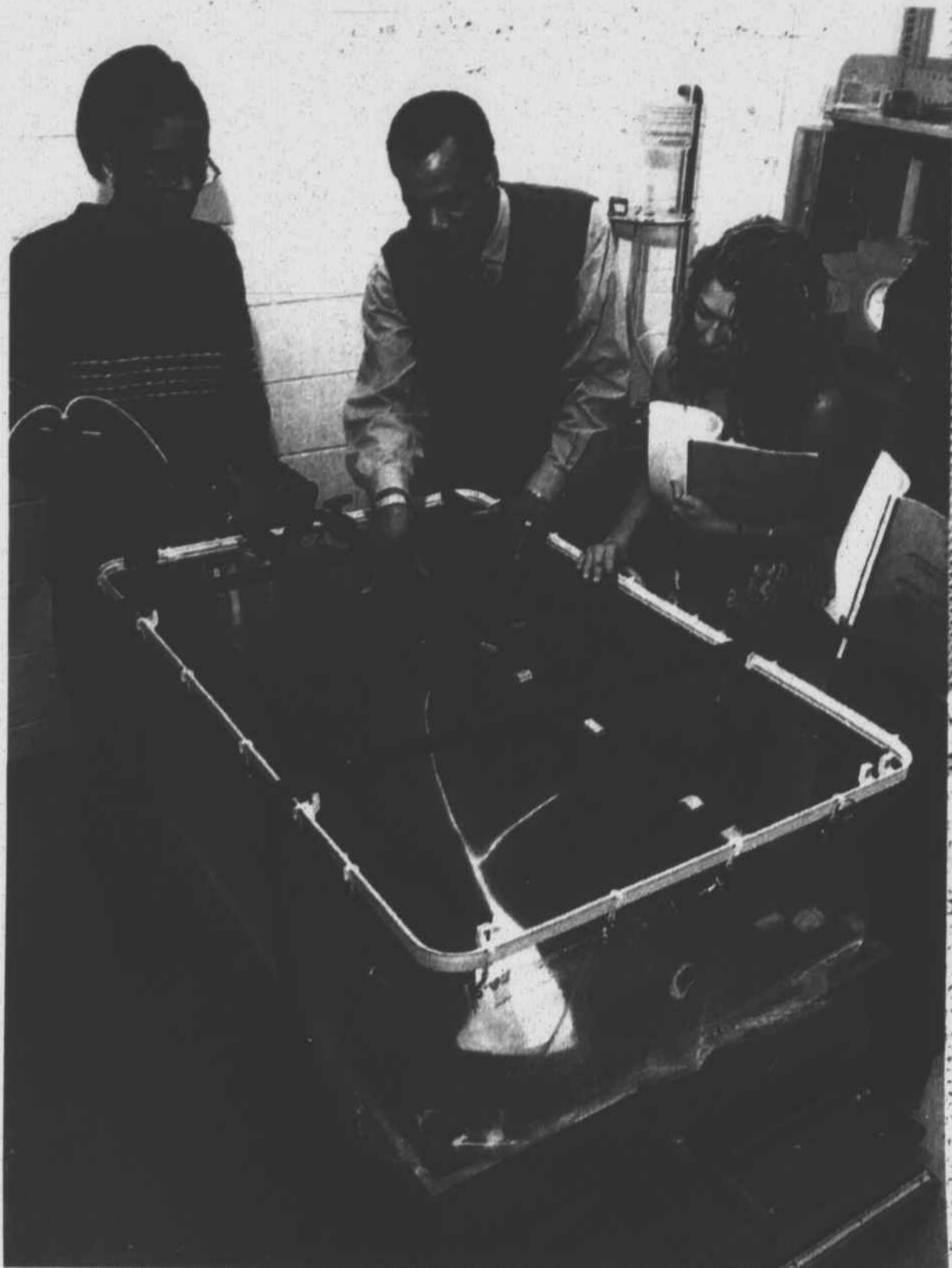
"They say that they're extremely satisfied with her work when they compare her to graduates of other schools," Gayle said, who added "Bailey said she turned down a job offer of more than \$48,000 a year in favor of going to graduate school in the fall."

"We really try to push them hard because we figure they're going to need this to do well," he said, noting that it is paying off. "We have quite a few of them out there making a positive impact."

In addition to being proud of its students, Gayle also is proud of the program's research.

Among current research projects, Dr. Manuel Reyes is leading a project, funded by a \$300,000 USDA grant, that is evaluating the performance of erosion and water quality models. And Dr. Ghasem Shahbazi is researching new sources of renewable energy — study for which he has received grants totaling several hundred thousand dollars.

It is an important field that addresses some of the world's most pressing challenges and supplies some of its basic needs: food and fiber. Gayle said "Agriculture is regarded as a major source of pollution and is also the largest employer of labor in the world. We take food, fiber and our natural resources for granted. The agricultural and bio-systems engineers' challenge is to produce these products efficiently and economically. We all need to eat and we need to conserve our natural resources for generations to come. Engineers in this discipline are trained to help society meet these needs."



Dr. Godfrey Gayle works with students in A&T's hydrology and water resources lab.

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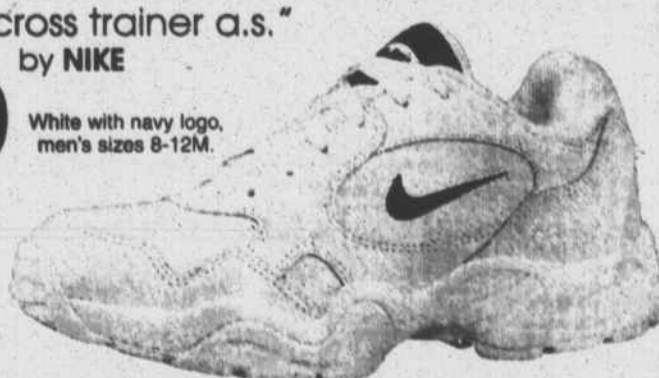
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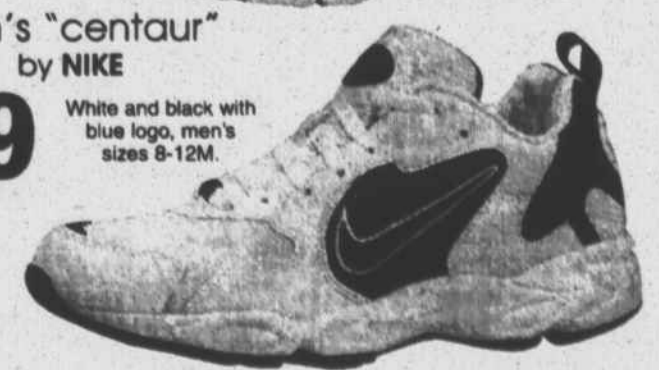
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