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## NATIONAL DESK

# U. of Maryland Branch Is Beacon for Minorities in Math and Science

By **DIANA JEAN SCHEMO** (NYT) 1428 words

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CATONSVILLE, Md., Oct. 11 - As Elton Holmes sprinted through public school by the wheat fields of Maryland's Eastern Shore, collecting top honors in science and math, smart money would have bet that the most selective universities would come courting, eager to sign up a star minority student like Mr. Holmes.

They did. Among others, Johns Hopkins University wanted him. But so did Freeman A. Hrabowski III, president of the University of Maryland at Baltimore County, and Dr. Hrabowski won.

With the country facing a chronic scarcity of African-Americans in math and science, Dr. Hrabowski, a 50-year-old black mathematician, has turned this once unremarkable -- and still predominantly white -- state university outpost into a magnet for blacks pursuing careers in those fields.

More blacks earn undergraduate degrees in biochemistry here than at any other university in the country, and nearly all the minority students in its elite scholarship program go on to medical or graduate school. The university's diverse chess team has won Pan-American tournaments three of the last four years.

"If you see a group of black students walking together on a college campus, your first thought might be, 'Oh, there goes the basketball team,'" said Dr. Michael Summers, an AIDS researcher. "Here you think, 'There goes the chemistry honors club or the chess team.' It's just a different attitude on campus."

Dr. Hrabowski's magic lies partly in a scholarship program he created a dozen years ago, which not only finances, but also trains and encourages 50 students a year who show promise in math or science. The Meyerhoff program, named for the Baltimore couple who first financed it, lures black high school students sought by the best colleges but also seeks out those with promise but who are less obviously headed for success. By combining them, it creates a critical mass of minority high achievers who become role models and mentors for younger students.

"There are institutions that stress the achievement of excellence, but there's very little nurturing or encouragement to help students achieve that level of excellence," said Dr. William Massey, a research mathematician at Bell Labs who has worked with many Meyerhoff interns. "And there are programs that have nurturing, but they don't stress achievement of excellence. This is one of the rare programs that stresses both."

Sometimes described as "the Pied Piper of smart students," Dr. Hrabowski said he created the program to help counter statistics showing that more black men were in prisons than in universities. Other figures, if less grim, were hardly more encouraging. A 1999 report by the College Board found that only one in 10 students demonstrating proficiency in math and science are Hispanic or black. And by 1997, three decades after a national study found that only 1.1 percent of doctorates in science, engineering and mathematics went to African-Americans, the number had reached only 2 percent.

To understand why, Beatriz Chu Clewell, a researcher at the Urban Institute, studied 125 minority undergraduates majoring in math or science at three unidentified universities, as well as those who had the credentials to major in those fields but did

not.

She found minorities discouraged by grueling course work. "They felt that by going into math or science, they were becoming below average," she said. "It scared them off." Many described their professors in the humanities as engaging, while math teachers typically faced the blackboard, working out equations. Several remembered professors telling them to look around at other students. "Fifty percent of you won't make it to the end," they would say. And they were usually right.

Though the same was true for white students, who also dropped out of math and science, the smaller numbers of blacks in these classes to begin with meant few or none were left after attrition.

Dr. Hrabowski aimed to reverse these trends by blending pieces of successful efforts at other schools. Though most college programs for minorities emphasized remediation, Dr. Hrabowski focused on those that helped good students become better.

"He's been able to take kids who could go to places like M.I.T. and convince them they could get a better education with a more constructive environment," said Dr. Harold Varmus, president of Memorial Sloan-Kettering Cancer Center in New York. "He's taken these kids and made them enthusiastic about science, high achieving and acceptable for admission to all the best graduate schools."

In formulating the program, Dr. Hrabowski realized popular culture had changed dramatically since he was a student in the 1950's and 60's. Then, expectations that advances in civil rights were opening doors made many blacks feel they had to prepare "twice as well" to compete with whites, Dr. Hrabowski said. The Soviet launching of Sputnik in 1957 also made a national priority of cultivating future scientists, mathematicians and engineers.

Today, he said, society seems to "prize everything but brain power." To counter the current mood, he makes stars of smart kids. The campus has no football team, but the chess team gets jackets, and comes home to victory rallies.

"It's not enough to be passionate about science, experienced in science and good," Dr. Hrabowski said, "but one has to have the confidence to believe she or he can succeed."

Dr. Hrabowski also told the Meyerhoff students to look around at their peers. But his punch line was different. "If they're not here in four years," he said, "we're doing something wrong."

In recent years, this campus has begun gathering another set of numbers, offering a different portrait of minority achievement. Some 95 percent of its Meyerhoff scholars graduated in math and science, with 90 percent of them going into programs for advanced degrees in their fields. Of the 300 or so institutions offering undergraduate degrees in biochemistry, U.M.B.C. awarded the most of any, 67, to minorities last year.

At the same time, Dr. Hrabowski tracked students who opted for other colleges, including in the Ivy League. He said only 35 percent of the students who went elsewhere stayed with math or science.

Initially created for young black men graduating from high school, the Meyerhoff scholarships began accepting minority women in its second year. After a recent court ruling banning a scholarship restricted to minority groups at the University of Maryland's College Park campus, the Meyerhoff program became available to students of any race who "demonstrate an interest in issues of underrepresentation in the sciences." This year's crop of Meyerhoff students is 65 percent minority, Dr. Hrabowski said.

On the modern campus in this Baltimore suburb, the program's students are nicknamed Meyerhoffs, and they are considered the campus leaders.

Yasmine Ndassa, a 20-year-old Meyerhoff scholar, believes that the scholarship program's practice of weekly group study sessions has helped her through her course work.

Dr. Summers, the AIDS researcher, said the Meyerhoff scholars were chipping away at biases among his fellow white professors in science and math, who he said tended to overlook black students in their classes. "Since Freeman's here, you have large numbers of minorities sitting in the front of class, asking good questions, pulling A's," he said.

Jasmine McDonald, 19, a sophomore, said she was devastated after receiving her first C on a chemistry exam last year. She

approached her Meyerhoff program adviser at the time, Anika Green. "They don't get upset," she said. "They want to know, 'Are you getting a C because you're not trying?' "

Ms. Green reminded Ms. McDonald that it was only her first test. "That just means you have to work hard," the adviser told her.

"I picked that grade up," the student recalled. "And Ms. Green was there to say, 'I wasn't worried.' "

"When you don't believe in you, they believe in you," said Ms. McDonald, who went on to study the binding properties of H.I.V.-1 cells in Dr. Summers' lab. "The research is beautiful," she said.

Mr. Holmes said part of his motivation lay in reversing people's assumptions about minorities in science. He added, "It's looking at the future, and saying, 'What do I really want to do with my life?' "

Photo: Freeman A. Hrabowski III, second from right, president of the University of Maryland at Baltimore County, joined students in listening to a biology professor, Dr. Michael Summers, second from left. (Marty Katz for The New York Times)

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