



## **Robert Glass (1939-Present)**

Former Adjunct Professor

**Bowie State University**

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*"If you pursue a degree in environmental science in grad school, you will find it very rewarding to go out into your professional career and make a contribution." Robert Glass, 2006.*

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### **Overview**

Glass has developed mechanisms to describe the effects of chemicals (agricultural and beyond) on the environment. A particular highlight was critical research he did on the highly toxic pesticide DDT. Glass developed several studies following the compound's degradation in soil and its resulting effects on the soil itself. His research was published in the *Journal of Agricultural and Food Chemistry*, to widespread acclaim in the scientific community. Glass retired from the USDA in 1998, where he had been employed as a chemist for thirty-two years. Since then, he has been an adjunct professor at Bowie State University, where he teaches Physical Science and Earth Science classes.

*This interview was conducted in 2010.*

### **Early Life and Education**

Robert Glass was born and raised in Lynchburg, Virginia. As a child, he was not particularly motivated to pursue higher education; however, as he grew into young adulthood, his teachers and mentors inspired in him a strong attachment to learning and education. Glass says he feels fortunate to have been raised in a city with a high proportion of professional African Americans—an environment which increased his motivation to excel academically. Glass attended Howard University for both undergraduate and graduate school, receiving his bachelor's degree in chemistry in 1963, and his doctorate in physical chemistry in 1973. In between college and graduate school, Glass served in the military for two years, worked as a technician at the National Institutes of Health for one year, and began his career at the United States Department of Agriculture (USDA).

### **Career**

The USDA hired Glass in 1966, and it was here that he became interested in the environmental field. He began around the time that Rachel Carson's book *Silent Spring* was first released and his later work would

be influenced by her research. Until that point, USDA programs had been geared toward dealing with environmental programs from an agricultural standpoint, and as a chemist, Glass was responsible for measuring levels of pesticides and herbicides in agricultural runoff and crops. After receiving his doctorate, he was able to initiate more independent research programs and projects that dealt with similar issues, but with a more environmentally sensitive focus.

## Highlights

Glass has developed mechanisms to describe the effects of chemicals (agricultural and beyond) on the environment, an achievement he considers the most important of his career. A particular highlight was critical research he did on the highly toxic pesticide DDT. Glass developed several studies following the compound's degradation in soil and its resulting effects on the soil itself. His research was published in the *Journal of Agricultural and Food Chemistry*, to widespread acclaim in the scientific community. Glass is also proud of contributions he made in conducting and publishing some of the first studies on the herbicide glyphosate (the active ingredient in Monsanto's Round-Up®) in agricultural soils and water samples.

Glass retired from the USDA in 1998, where he had been employed as a chemist for thirty-two years. Since then, he has been an adjunct professor at Bowie State University, where he teaches Physical Science and Earth Science classes. Glass says he has remained in the environmental field because he has a gift for developing techniques to measure chemical interaction with the environment. The intersection of chemistry and environmental science interests him in both a professional and academic capacity. "As a student, I didn't enjoy pure chemistry, and I knew I wanted to do something to improve the environment. I think that this area, physical chemistry, is a good match," he says.

## Importance of Mentoring to Career

At Howard, Glass had two mentors, Dr. Joseph Morris and Dr. Dolphus E. Milligan, who significantly influenced the development of his career. Dr. Morris, a professor of chemistry and an outstanding analytical chemist, was his undergraduate advisor. Dr. Milligan, an adjunct professor and a renowned African American research scientist at the National Bureau of Standards in Gaithersburg, MD, was his graduate school advisor in physical chemistry. Both helped him to navigate the chemistry program, and provided advice on the development of his career. Dr. Milligan was also instrumental in guiding Glass through his doctoral thesis, entitled "Infra-red Spectral Studies of Some Matrix-Isolated Chlorobenzene."

Glass was involved in several diversity programs while employed by the USDA. He mentored young people through an agricultural apprenticeship program that recruited high school students to work in the laboratory. Through this program, Glass had the opportunity to mentor many minority students; most have gone on to pursue graduate degrees in the environmental or biological sciences. In addition, Glass collaborated with a group of African American colleagues to assist the USDA in recruiting more minorities in their post-doctoral research program in the 1980s.

## **Advice to Young Professionals**

According to Glass, "The environmental field is an outstanding area to go into if you have the ability to make a connection between the environment and your area of expertise." Glass remembers that when he was in school, there were no degrees in environmental science. However, as environmental issues grow more critical, the need for environmental professionals is increasing, meaning more opportunities for minority students. Glass advises minorities to take advantage of this situation. "If you pursue a degree in environmental science in grad school, you will find it very rewarding to go out into your professional career and make a contribution," he says. "There are so many problems, like global warming and the loss of fresh water, that just aren't being sufficiently addressed."