

Scott W. Williams,
Biography March 2005

Scott Williams' father's father taught in an integrated elementary school in Harrisburg, Pennsylvania. His mother's Algonquin Indian mother was a business woman who also formed a Colored woman's reading group in 1900 Bangor, Maine. Scott Williams is an only grandchild. As his grandparents strongly valued education, all of his aunts and uncles on both sides had Master's degrees at least. His mother, a cellist, Beryl Williams was the first Black to graduate from the University of Maine (Mathematics, 1936), later its first Black graduate student earning the Masters degree (Mathematics, 1940). His father, a pianist, Roger Williams was one of the first Blacks to earn a Ph.D. in Psychology (Penn State, 1946).

Born 1943 in Staten Island while his father served in World War II, Scott was raised in Baltimore. His family was academically oriented but also interested in African American History, involved in Civil Rights struggles, and connected to music. In segregated Baltimore, his grade school was a four room building with two teachers. He loved numbers, to write stories, and to paint.

When he was twelve and in the 7th grade, Scott attended Paul Dunbar Junior High School which was three bus rides away from home. That same year, his mother took him to see the M.I.T. campus during a trip to visit family in Boston. After her description of the Institute as a great place of mathematical learning, he said, "Mom, I will get a Ph.D. here in Mathematics." The next year in Baltimore was massive desegregation and Williams was one of only three blacks allowed to attend Woodbourne Junior High just a 15 minutes walk from home. Mob attacks on Black students, personal physical attacks by random students, and grading tricks by teachers who didn't like blacks made his two years at Woodbourne a struggle. Though school administrators wanted him out of the academic program and into the vocational program, Scott's parents protested and won.

Despite mediocre junior high school grades, Scott, in 1957, began high school at the famed Baltimore City College which he describes as 1/3 Black, 1/3 Italian, and 1/3 Jewish. In his first years, he was required to take an IQ exam twice because his 154 score was thought to be in error by school officials, he scored nine points higher the second time. In spite of an excellent mathematics performance, he wasn't allowed in the school's college preparatory program. Until he obtained a near perfect SAT mathematics score, his guidance counselor refused to recommend him to any but a Black college.

After failing to get a scholarship to MIT in spite of nearly perfect SAT scores, Williams enrolled at Historically Black Morgan State in 1960. He participated in the protests against movie theaters with White Only policies. He participated in the 1963 March on Washington. In 1964 as a student activist at Morgan, he met and discussed civil rights policy with similar individuals such as the later famous Stokely Carmichael of Howard and H. Rap Brown of Maryland State.

At Morgan, he became a student in Dr. Clarence Stephen's mathematics learning program, now well-known as the Morgan-Potsdam Model. During his four years there he solved advanced problems in *The Mathematical Monthly* and co-authored two research papers on Non-Associative Algebra with his undergraduate advisor, Dr. Bohun Volodymir-Chudyniv, an immigrant White Russian. That work, finishing in the top ten students in the school, and a 96% on the Advanced Mathematics Graduate Record Exam assured him he would be accepted into the Yale University Ph.D. program to study Algebra. Scott graduated with a B.S. (1964) eighth in his class at Morgan, but Yale refused him.

After Morgan, Scott went to work for IBM testing its newest mainframe computer (the 360) in Kingston, New York., However, he found this industrial experience unchallenging and entered graduate school in Mathematics at Lehigh University. In Bethlehem, Pennsylvania he spent his first two months living in a hotel costing more than his graduate assistants salary because available town housing for students was unavailable to Blacks.

As a graduate student Williams distinguished himself in his first year by producing many new examples in Dr. Albert Wilansky's Ph.D. student topology

seminar. In 1967, he earned an MS in Mathematics. Also while in graduate school he founded the Black Uhuru Society which uncovered, highlighted and protested the university's racist and the town's racist policies. As a result, in two years the university had a tenfold increase in Black student population, and these students were allowed to participate in activities formerly restricted from Blacks. Williams also participated in the very first anti-war (Vietnam) demonstration in northeastern Pennsylvania. Always interested in mathematics beyond what was taught in classes, Scott wrote a thesis in three months under Samuel Gulden and earned a Ph.D. at Lehigh in 1969.

For two years after the Ph.D. Dr. Williams was a post-doc in mathematics at Penn State University, College Park where he was also involved in the antiwar March on Washington. he flirted with moving from Mathematics to Social Psychology. But he didn't and co-founded the first organization of African American Mathematicians. It lasts today as the National Association of Mathematicians.

In 1971, Dr. Williams came to the University in Buffalo, SUNY on an Affirmative Action position. His work in his fourth paper, *The G_δ -topology on compact space* established him as one of the rising stars in General Topology. In 1975 his paper *Is $\square^{\omega+1}$ paracompact?* was the first paper to apply the notion of scales from Logic to solve problems in Topology. These lead to him surviving the stigma of "Affirmative Action position" earning tenure in 1977.

Williams' 1978 work on *Tress, Gleason Spaces, and $\beta\mathbb{N}-\mathbb{N}$* began a popular technique of using trees to study Stone-Cech Remainders. In 1981 he got the Chancellor of SUNY's Award for Excellence in Teaching. With an impish grin, he says, "That teaching award was counter-balanced by my receiving my worst ever teaching reviews the same year."

In 1985, Scott Williams further diversified his wide mathematical interests. He thought about applications of Set Theory to Dynamics. A year later he was made a full Professor at the University in Buffalo. His 1987 work, *Examples of*

Recurrence, with Jan Pelant of the Czech Academy of Sciences solved two 30-year-old problems in the field of Topological Dynamics.

Dr. Williams has given colloquia, and seminar lectures on his mathematics research from Beijing Polytechnic Institute in China to Oxford University in England. Together with invited conference lectures, he has presented at over 100 times at over 60 institutions in nine countries. He has published 40 articles, and also, he has been the editor of the *NAM Newsletter*, and a columnist with the journal *Topology Atlas*. His web site, *The Compleat Abridged Scott Williams*, won the 1997 Best of the Web Award.

In October 2004, *Science Spectrum Magazine* and Career Communications Group, Inc. selected and awarded Scott Williams as one of "The 50 Most Important Blacks in Research Science." In addition to his research, the reasons for the award are his efforts in two projects which have attracted Blacks to Mathematics and brought Black Mathematicians together for joint research projects. He is a board member of the Council for African American Researchers in the Mathematical Sciences, and he is the creator of and maintains the world famous web site *Mathematicians of the African Diaspora* has had three million visitors.

In the community, Dr. Williams has been a member of the Circle Brotherhood Association. In 1997 he was among for men in Buffalo awarded Outstanding Father of the year. His web site, *The African American History of Western New York* is very popular with school children has had 500,000 visitors. He was an Artist Blacksmith from 1972 to 1983.

Dr. Williams is husband to Gloria Aniebo-Williams, father of Rachael, Rebekah, and Eve Williams and step-father of Vance Aniebo. He is grandfather to Bhakti Williams Brown.

REFERENCES:

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