

# Finding Aid to The HistoryMakers® Video Oral History with Conrad Williams

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## Overview of the Collection

<b>Repository:</b>	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
<b>Creator:</b>	Williams, Conrad, 1936-
<b>Title:</b>	The HistoryMakers® Video Oral History Interview with Conrad Williams,
<b>Dates:</b>	August 29, 2012 and July 17, 2012
<b>Bulk Dates:</b>	2012
<b>Physical Description:</b>	8 uncompressed MOV digital video files (4:02:42).
<b>Abstract:</b>	Physicist and physics professor Conrad Williams (1936 - ) was a leader in magnetic research at the United States Naval Research Laboratory and at Morgan State University. Williams was interviewed by The HistoryMakers® on August 29, 2012 and July 17, 2012, in Baltimore, Maryland and Washington, District of Columbia. This collection is comprised of the original video footage of the interview.
<b>Identification:</b>	A2012_142
<b>Language:</b>	The interview and records are in English.

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## Biographical Note by The HistoryMakers®

Physicist and physics professor Conrad Williams was born on March 1, 1936 in Warsaw, North Carolina. Williams grew up on Capitol Hill in Washington, D.C. and as a seven year. Williams had a strong interest in science, and his mentor, a geology curator for the Museum of Natural History, taught him about rocks and rock formations. Williams graduated from Spingarn Senior High School in 1954 and then earned his B.S. degree from Morgan State University in 1958. In 1960, Williams joined the U.S. Naval Research Laboratory (NRL) as a solid state physicist. He continued to work at the Naval Research Laboratory while earning his M.S. degree in physics from Howard University. He also received his Ph.D. degree in physics from Howard University in 1971 under the guidance of Dr. Arthur N. Thorpe and Dr. Albert I. Schindler (NRL).

Williams worked at the U.S. Naval Research Laboratory for thirty one years. In 1980, he resigned and joined the National Science Foundation as program director of the college and university faculty programs; and, in 1981, became the associate program director for condensed matter physics and superconductivity. In 1983, he returned to NRL and retired in 1993 as the head of the Applied Magnetics Section. In 1993, Williams joined the faculty of Morgan State University as a physics professor. During his tenure, he made significant contributions to the development of the research infrastructure, particularly in the area of condensed mater physics.

Williams made significant contributions to the field of magnetism and magnetic materials for over five decades. His research interests centered on the physical properties of magnetism in unique compounds, such as magnetic anisotropy, magnetostriction and magnetization. Williams designed and constructed the world's first low temperature 6-Tesla high field torque magnetometer that was instrumental in developing the theory and experimental verification of the magnetic properties of novel rare earth intermetallic compounds. Many of these materials are utilized in parts of the U.S. Navy's fleet as well as other applications.

Williams has received several awards, including the Naval Research Laboratory's prestigious Sigma Xi Award for

Pure Science in 1977 for his research in establishing origin of the magnetic anisotropy energy of rare earth laves phase compounds. He was named a “Giant in Science,” by the Quality Education for Minorities in Mathematics, Science and Engineering Network. Williams is also a fellow of the American Physical Society and the National Society of Black Physicists. Williams has been a distinguished invited professor and/or scientist at many institutions that include: the Indian Institute of Technology, Howard University, the Tokyo Institute of Technology and Johns Hopkins University. He has served on many national and international committees which include the Department of Energy Basic Energy Sciences Advisory Committee, appointed by the Secretary of Energy; the National Science Foundation's Materials Research Advisory Committee; the U.S. National Commission for the United Nations Educational, Scientific, and Cultural Organization (UNESCO), appointed by the Secretary of State; and the NSF Advisory Panel on Scientific Opportunities in High Magnetic Field Research, which served as the basis for the National High Field Magnetic Laboratory in Tallahassee, Florida.

Conrad Williams was interviewed by *The History makers* on July 17, 2012.

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## Scope and Content

This life oral history interview with Conrad Williams was conducted by Larry Crowe on August 29, 2012 and July 17, 2012, in Baltimore, Maryland and Washington, District of Columbia, and was recorded on 8 uncompressed MOV digital video files. Physicist and physics professor Conrad Williams (1936 - ) was a leader in magnetic research at the United States Naval Research Laboratory and at Morgan State University.

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## Restrictions

### Restrictions on Access

Restrictions may be applied on a case-by-case basis at the discretion of The HistoryMakers®.

### Restrictions on Use

All use of materials and use credits must be pre-approved by The HistoryMakers®. Appropriate credit must be given. Copyright is held by The HistoryMakers®.

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## Related Material

Information about the administrative functions involved in scheduling, researching, and producing the interview, as well as correspondence with the interview subject is stored electronically both on The HistoryMakers® server and in two databases maintained by The HistoryMakers®, though this information is not included in this finding aid.

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## Controlled Access Terms

This interview collection is indexed under the following controlled access subject terms.

### Persons:

Williams, Conrad, 1936-

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

## Subjects:

African Americans--Interviews  
Williams, Conrad, 1936- --Interviews

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## Organizations:

HistoryMakers® (Video oral history collection)

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The HistoryMakers® African American Video Oral History Collection

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Morgan State University Naval Research Laboratory (U.S.) Goddard Space Flight Center

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## Occupations:

Physicist

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## HistoryMakers® Category:

ScienceMakers

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## Administrative Information

### Custodial History

Interview footage was recorded by The HistoryMakers®. All rights to the interview have been transferred to The HistoryMakers® by the interview subject through a signed interview release form. Signed interview release forms have been deposited with Jenner & Block, LLP, Chicago.

### Preferred Citation

The HistoryMakers® Video Oral History Interview with Conrad Williams, August 29, 2012 and July 17, 2012. The HistoryMakers® African American Video Oral History Collection, 1900 S. Michigan Avenue, Chicago, Illinois.

### Processing Information

This interview collection was processed and encoded on 5/30/2023 by The HistoryMakers® staff. The finding aid was created adhering to the following standards: DACS, AACR2, and the Oral History Cataloging Manual (Matters 1995).

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## Other Finding Aid

A Microsoft Access contact database and a FileMaker Pro tracking database, both maintained by The

HistoryMakers®, keep track of the administrative functions involved in scheduling, researching, and producing the interview.

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## Detailed Description of the Collection

### Series I: Original Interview Footage

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_001, TRT: 1:29:58 ?

Conrad Williams describes his family background. Williams was born in 1936 in Warsaw, North Carolina. His mother, Lillian Fagan was born in 1907 in Plymouth, North Carolina, to a well-to-do and educated family. Fagan attended school in Washington, D.C. while living with relatives. She graduated from Miner Teachers College, and then returned to Four Oaks, North Carolina to teach. Williams' father, Opie Hanibal Williams was born in Kenansville, North Carolina, in 1891. His maternal grandfather was a white slave-owner, who had bequeathed his estate to his children. Opie Williams earned his bachelor's degree from North Carolina A&M State University in the early 1900s, and worked as a school principal. Williams' parents met while serving at the same school, but separated when Williams was seven years old. He was raised primarily by his mother.

African American families--North Carolina.

African American educators--North Carolina.

Slaveholders--North Carolina.

Universities and colleges--North Carolina.

Divorced parents.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_002, TRT: 2:29:11 ?

Conrad Williams describes his childhood in Washington, D.C. in the 1940s and early 1950s. Williams' family moved from North Carolina to Washington, D.C. when he was in the second grade, where he spent the rest of his childhood and school years. Williams' family lived on Walter Street, only twelve blocks away from the U.S. Capitol building. Together with his friend Roderick, Williams spent a large part of his childhood exploring and making friends at the U.S. Capitol building and the museums on the national mall. Williams attended Lovejoy Elementary School and Dunbar High School, where his mother had attended as well. Finding school boring, Williams did not perform well academically. In 1951, he transferred to Spingarn High School, a new school in his D.C. neighborhood, where he was taught by a highly qualified staff and began to improve academically.

Childhood and youth--Washington (D.C.)

United States Capitol (Washington, D.C.)

Underachievers--Education.

Academic achievement.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_003, TRT: 3:30:01 ?

Conrad Williams describes his teenage years in Washington, D.C. and his experience in college. Raised in a single-parent household by his mother, Lillian Fagan, Williams was also mentored by his neighbor, George Coleman, and Coleman's business partner, Charley Johnson. Coleman and Johnson included Williams on their construction projects, which kept him busy while providing him an opportunity to learn several useful trades. As a teenager, Williams enjoyed physics, mathematics, photography, tennis and swimming. He was also

an amateur radio operator. Williams' biology teacher at Spingarn High School encouraged him to apply to Morgan College in Baltimore, Maryland, and helped him gain admission there. In 1954, Williams began his undergraduate studies at Morgan College, where he was engaged in research in the physical sciences under the tutelage of Dr. Julius Taylor. He also played on the collegiate tennis team.

Children of single parents--Conduct of life.

Mentoring--Washington (D.C.).

Morgan College (Baltimore, Md.)

Tennis--United States.

College sports--United States.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_004, TRT: 4:29:14 ?

Conrad Williams describes his research at Howard University and the U.S. Naval Laboratory (NRL) in Washington, D.C. Williams graduated from Morgan College in Baltimore, Maryland in 1958. He then went on to Howard University to pursue his master's degree in physics, where he was mentored by Drs. Thorpe and Pankey. While studying at Howard, Williams began working at the NRL under the guidance of Ed Sokovitz, Al Schindler and Glenn Bailey, and later obtained a permanent position there as a solid-state physics research scientist. He simultaneously pursued and earned his Ph.D. in physics from Howard University in 1971, where he continued his master's thesis research on the effects of charged particle irradiation on the magnetic anisotropy of iron-nickel alloy films. Williams has been involved with obtaining several patents for his research at the NRL. Williams married in 1967; he and his wife have two children.

Naval Research Laboratory (U.S.).

Physics--Study and teaching (Higher).

Mentoring in science--United States.

Solid state physics--Research.

Patents--United States.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_005, TRT: 5:29:57 ?

Conrad Williams describes his scientific contributions in the field of condensed matter physics. From 1980 to 1983, he served at the National Science Foundation (NSF) as a program director of College and University Faculty Programs and later at the Division of Material Sciences. He returned to the U.S. Naval Research Laboratory (NRL) in 1983, and remained there until he retired in 1993. Over the course of his career at the NRL, Williams has made significant research advances in condensed matter physics, and was inducted as a fellow of the American Physical Society. After retiring from the NRL, Williams joined the faculty in the physics department at Morgan State University in Baltimore, Maryland, devoted to increasing research opportunities for the university.

Condensed matter--Research--United States.

National Science Foundation (U.S.).

Naval Research Laboratory (U.S.).

American Physical Society.

Morgan State University. Department of Physics & Engineering Physics.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_006, TRT: 6:30:03 ?

Conrad Williams describes his past and current research in condensed matter physics. Williams was named a Giant in Science in 1997, and has contributed a

large volume of research in the area of magnetic materials. He believes that a firm foundational education is key to success in the physical sciences, and that students today need to focus on learning rather than merely passing a course. Williams values the life-lessons that he learned during his childhood, and believes the skills that he acquired when he was young contributed to his success.

Magnetic materials--Research.

Physical sciences--Vocational guidance.

Learning and scholarship--United States.

Education--Aims and objectives--United States.

Life lessons.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_001\_007, TRT: 7:19:33 ?

Conrad Williams believes that his legacy lies in his two daughters and the lessons that he has passed on to them. In his opinion, the current generation of youth needs better guidance from their parents and from the educational system. He has adopted and used his grandmother's belief that children can be influenced as early as from the cradle.

Fathers and daughters--Family relationships.

Universities and colleges.

Grandmothers--Quotations, maxims, etc.

Video Oral History Interview with Conrad Williams, Section A2012\_142\_002\_008, TRT: 8:44:45 ?

Conrad Williams describes his visiting professorships. Over the course of his career, Williams collaborated with scientists at Johns Hopkins University, the Tokyo Institute of Technology and the Indian Institute of Technology. Williams also served on scientific committees for the National Science Foundation (NSF), the U.S. Department of Energy and the U.S. National Commission for the United Nations Educational Scientific and Cultural Organization (UNESCO). Williams' research goal lies in finding a material that will shift society's reliance from fossil fuel-powered vehicles to more environment-friendly electric vehicles.

Scientists--United States--Intellectual life--20th century.

Universities and colleges.

Executive advisory bodies.

U.S. National Commission for UNESCO.

Fossil fuels--Environmental aspects.