

Finding Aid to The HistoryMakers® Video Oral History with Joycelyn Harrison

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Harrison, Joycelyn S.
Title:	The HistoryMakers® Video Oral History Interview with Joycelyn Harrison,
Dates:	July 14, 2012
Bulk Dates:	2012
Physical Description:	7 uncompressed MOV digital video files (2:58:59).
Abstract:	Chemical engineer Joycelyn Harrison (1964 -) was research engineer and chief of the Advanced Materials and Processing Branch of the National Aeronautics and Space Administration's (NASA) Langley Research Center. She was also the director of the low density materials program at the Air Force Office of Scientific Research. Harrison was interviewed by The HistoryMakers® on July 14, 2012, in Washington, District of Columbia. This collection is comprised of the original video footage of the interview.
Identification:	A2012_173
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Inventor and chemical engineer, Joycelyn Harrison was born on January 22, 1964. She received her B.S. in chemistry from Spelman College in Atlanta, Georgia in 1987. She then went on later that year to earn her B.S. in chemical engineering from Georgia Institute of Technology. Harrison remained at Georgia Tech as a graduate student and completed her M.S. in chemical engineering in 1989 and her Ph.D. in 1993. She completed her dissertation on the “Structure-Dielectric Property Relationships in An Epoxy System: A Free Volume Analysis.”

After graduate school Harrison went on to work at the Advanced Materials and Processing Branch (AMPB) of NASA’s Langley Research Center in Hampton, Virginia in 1994 as a research engineer under the tutelage of Terry L. St. Clair. While at Langley, Harrison conducted much of her research in the field of piezoelectric materials, a class of polymers capable of producing mechanical motion when introduced to an electric current and conversely capable of generating an electric charge when subjected to stress. Her research culminated with her participation on the Thin-Layer Composite-Unimorph Piezoelectric Driver and Sensor (“THUNDER”) project with several colleagues, including senior engineer Robert Bryant. The THUNDER team innovated new piezoelectric polymers that improved upon the existing commercial varieties by providing better durability, energy efficiency, and production costs. In 1999, Harrison became chief of AMPB, which required her to supervise more than 40 research scientists conducting research on polymer composites and ceramics synthesis. NASA recognized Harrison’s contributions to the AMPB branch by awarding her the Exceptional Achievement Medal in 2000 and the Outstanding Leadership Medal in 2006.

Harrison’s personal achievements include a number of patents for piezoelectric substrates that she invented between 1999 and 2008, which have applications both within the aerospace industry for the repair of satellites and the commercial sector for improvements in devices, such as robots, heart pumps and audio speakers. In 2009, Harrison became the manager of the Low Density Materials program at the Air Force Office of Scientific Research

in Arlington, Virginia, which seeks to attain reductions in weight of aerospace systems while simultaneously improving overall efficiency.

Harrison resides in Arlington, Virginia.

Harrison was interviewed by *The HistoryMakers* on July 14, 2012.

Scope and Content

This life oral history interview with Joycelyn Harrison was conducted by Larry Crowe on July 14, 2012, in Washington, District of Columbia, and was recorded on 7 uncompressed MOV digital video files. Chemical engineer Joycelyn Harrison (1964 -) was research engineer and chief of the Advanced Materials and Processing Branch of the National Aeronautics and Space Administration's (NASA) Langley Research Center. She was also the director of the low density materials program at the Air Force Office of Scientific Research.

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®.

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.

Controlled Access Terms

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

Persons:

Harrison, Joycelyn S.

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

Subjects:

African Americans--Interviews

Harrison, Joycelyn S.--Interviews

Organizations:

HistoryMakers® (Video oral history collection)

The HistoryMakers® African American Video Oral History Collection

Occupations:

Chemical Engineer

HistoryMakers® Category:

ScienceMakers

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 Joycelyn Harrison, July 14, 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).

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.

Detailed Description of the Collection

Series I: Original Interview Footage

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_001, TRT: 1:29:33
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Joycelyn Harrison describes her family history. Her mother, Viola McKenzie, was born in March of 1936 in Byromville, Georgia. Her family name, McKenzie, comes from the slave owners that owned her family and are currently known in Georgia as the owners of 'McKenzie Frozen Foods.' After graduating from high school, Viola moved north to Chattanooga, Tennessee, where she earned her cosmetology license and became a salon owner. Harrison's father, Charles Nathaniel Simpson, was born on May of 1929 in Chattanooga, Tennessee. He graduated from Howard High School in Chattanooga in 1948. He was hired as a custodian at Kay Jewelers, but was promoted to salesperson after impressing his manager. He became the first black salesman in Chattanooga, Tennessee. Harrison's parents met while her mother was in cosmetology school. African American families--Southern States.

Slaveholders--Tennessee.

Beauty culture--Vocational guidance.

African American business enterprises--Tennessee.

African American--Sales personnel--Tennessee.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_002, TRT: 2:29:21
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Joycelyn Harrison was born and raised in Chattanooga, Tennessee. She shares stories of her childhood memories and talks about her family. Harrison has four older siblings, three of which come from her father's previous marriage. Her first job was as a shampoo girl in her mother's beauty salon. She talks about how her experience working in the salon environment contributed to her social skills and a keen work ethic. Harrison attended G. Russell Brown Elementary School. Initially, she was bullied by one of her classmates for being a "teachers pet." However, after a conversation with her mother, Harrison fought back and the harassment subsided. Harrison talks about her love for learning and teaching at an early age. Instead of television shows or movies, Harrison enjoyed watching documentaries the most because of their intellectual content.

Childhood--Chattanooga Region (Tenn.)

Stepfamilies--United States.

Beauty culture--Vocational guidance--Social aspects.

Bullying in schools.

Documentary films.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_003, TRT: 3:30:02
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Joycelyn Harrison's family was very religious and were members of the Warren Chapel African and Methodist Episcopal Church for most of her growing up. Harrison attended North Chattanooga Junior High School in Chattanooga, Tennessee. She enjoyed reading classic fiction novels, the encyclopedia, and the "Childcraft" multi-volume series. After graduating from junior high, Harrison attended Chattanooga High School. She was encouraged to pursue a career as a chemical engineer by her chemistry teacher, Dr. Stu Silverman. He introduced her to the Minority Introduction to Technology and Engineering summer enrichment program, sponsored by the Georgia Institute of Technology in Atlanta, Georgia, where she was exposed to engineering. After graduating high school in 1982, Harrison went on to attend Spelman College and the Georgia Institute of Technology on a full scholarship, awarded by the Department of

Energy. She majored in chemistry and chemical engineering.
African American families--Religious life--Christianity.
Children--Books and reading--United States.
Engineering--Vocational guidance--United States.
African American college students.
Engineering--Scholarships, fellowships, etc.--United States.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_004, TRT: 4:29:53
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Joycelyn Harrison attended Spelman College and the Georgia Institute of Technology, where she pursued dual degrees in chemistry and chemical engineering. She spent three years at Spelman, in the chemistry program, and two years in the chemical engineering program at Georgia Tech. Harrison describes her experiences at both schools. After graduating with her dual B.S. degrees in 1987, Harrison continued with her graduate studies at Georgia Tech on a fellowship and earned her M.S. and Ph.D. degrees in chemical engineering in 1989 and 1993, respectively. Her dissertation, "Structure-Dielectric Property Relationships in an Epoxy System: A Free Volume Analysis," preceded her work on developing high quality polymers and plastics for use in the aerospace industry. In 1994, Harrison joins NASA's Langley Research Center as a post-doctoral associate, where she worked on piezoelectric materials and developed patents. Harrison discusses the impact her mentors have had on her life and career.

Spelman College.
Georgia Institute of Technology.
Joint academic degree programs.
Chemical engineering--Study and teaching (Higher)--United States.
Dissertations, Academic--United States.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_005, TRT: 5:29:21
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Joycelyn Harrison was appointed as group leader at NASA's Langley Research Center in 1995. The following year, Harrison, along with her Langley colleagues, received the R&D 100 Award from 'R&D Magazine' for their development of THUNDER, Thin Layer Composite Unimorph Piezoelectric Driver and Sensor. THUNDER materials are utilized by NASA and commercial industries as sensors, actuators and for the development of energy-efficient electronics. Harrison discusses how her experience working in her mother's hair salon influenced her career progression. In 1999, Harrison was promoted to chief of the Advanced Materials and Processing Branch, AMPB, at Langley. She describes her management philosophy and discusses the challenging aspects of being a manager. Harrison received two NASA achievement medals for her achievements while at NASA. She left NASA in 2009 and was appointed as manager for the Low Density Materials program at the Air Force Office of Scientific Research.

Langley Research Center.
Research, Industrial--Periodicals.
Beauty culture--Vocational guidance.
Management & leadership skills.
United States. Air Force. Office of Scientific Research.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_006, TRT: 6:26:52

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Joycelyn Harrison was appointed as program manager at the Air Force Office of Scientific Research in 2009, where she runs the low density materials program. In 2010, Harrison served as the Department of Defense liaison for the National Academies study on structural light weighting. Also in partnership with the Department of Defense, she is involved in their Historically Black Colleges and Universities/Minority Institutions Program, where she mentors young minority professors and women. Harrison talks about her other professional activities and reflects on her career. Harrison attributes her progress primarily to having mentors. Harrison reflects on her legacy, shares how she would like to be remembered, and talks about the importance of education for the African American community.

United States. Department of Defense.

African American universities and colleges--United States.

Mentoring in education.

African Americans--Education.

Video Oral History Interview with Joycelyn Harrison, Section A2012_173_001_007, TRT: 7:03:57
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Joycelyn Harrison describes her photos.

Photographs.