

Finding Aid to The HistoryMakers® Video Oral History with Shirley Ann Jackson

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Jackson, Shirley Ann, 1946-
Title:	The HistoryMakers® Video Oral History Interview with Shirley Ann Jackson,
Dates:	November 4, 2006 and September 22, 2006
Bulk Dates:	2006
Physical Description:	14 Betacame SP videocassettes (7:03:05).
Abstract:	University president and physicist Shirley Ann Jackson (1946 -) became the first woman to receive her Ph.D. in physics from MIT in 1973. She chaired the Nuclear Regulatory Commission for four years and was named president of Rensselaer Polytechnic Institute in 1999. Jackson was interviewed by The HistoryMakers® on November 4, 2006 and September 22, 2006, in Rensselaer, New York and Troy, New York. This collection is comprised of the original video footage of the interview.
Identification:	A2006_102
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Renowned physicist and university president Shirley Ann Jackson was born on August 5, 1946, in Washington, D.C., to George Hiter Jackson and Beatrice Cosby Jackson. When Jackson was a child, her mother would read her the biography of Benjamin Banneker, an African American scientist and mathematician who helped build Washington, D.C., and her father encouraged her interest in science by assisting her with projects for school. The Space Race of the late-1950s would also have an impact on Jackson as a child, spurring her interest in scientific investigation.

Jackson attended Roosevelt High School in Washington, D.C., where she took accelerated math and science classes. Jackson graduated as valedictorian in 1964 and encouraged by the assistant principal for boys at her high school, she applied to the Massachusetts Institute of Technology (MIT). Jackson was among the first African American students to attend MIT, and in her undergraduate class she was one of only two women.

In 1973, Jackson graduated from MIT with her Ph.D. degree in theoretical elementary particle physics, the first woman to receive a Ph.D. in physics in MIT's history. Jackson worked on her thesis, entitled *The Study of a Multiperipheral Model with Continued Cross-Channel Unitarity*, under the direction of James Young, the first African American tenured full professor in the physics department at MIT. In 1975, the thesis was published in *Annals of Physics*.

After receiving her degree, Jackson was hired as a research associate in theoretical physics at the Fermi National Accelerator Laboratory, or Fermilab. While at Fermilab, Jackson studied medium to large subatomic particles, specifically hadrons, a subatomic particle with a strong nuclear force. Throughout the 1970s, Jackson would work in this area on Landau theories of charge density waves in one- and two-dimensions, as well as Tang-Mills gauge theories and neutrino reactions.

In 1974, after two years with the Fermilab, Jackson served as visiting science associate at the European Organization for Nuclear Research in Switzerland, and worked on theories of strongly interacting elementary particles. In 1975, Jackson returned to Fermilab, and was simultaneously elected to the MIT Corporation's Board of Trustees. In 1976, Jackson began working on the technical staff for Bell Telephone laboratories in theoretical physics. Her research focused on the electronic properties of ceramic materials in hopes that they could act as superconductors of electric currents. While at Bell laboratories, Jackson met her future husband, physicist Morris A. Washington. That same year, she was appointed professor of physics at Rutgers University. In 1980, Jackson became the president of the National Society of Black Physicists and in 1985, she began serving as a member of the New Jersey Commission on Science and Technology.

In 1991, Jackson served as a professor at Rutgers while working for AT&T Bell Laboratories in Murray Hill, New Jersey. In 1995, Jackson was appointed by President Clinton to the chair of the Nuclear Regulatory Commission. In 1997, Jackson led the formation of the International Nuclear Regulators Association. In 1998, Jackson was inducted into the National Women's Hall of Fame; the following year, she became the eighteenth president of Rensselaer Polytechnic Institute. Jackson remains an advocate for women and minorities in the sciences and, since 2001, has brought needed attention to the "Quiet Crisis" of America's predicted inability to innovate in the face of a looming scientific workforce shortage.

Shirley Ann Jackson was interviewed by *The HistoryMakers* on September 22, 2006 .

Scope and Content

This life oral history interview with Shirley Ann Jackson was conducted by Julieanna L. Richardson on November 4, 2006 and September 22, 2006, in Rensselaer, New York and Troy, New York, and was recorded on 14 Betacame SP videocassettes. University president and physicist Shirley Ann Jackson (1946 -) became the first woman to receive her Ph.D. in physics from MIT in 1973. She chaired the Nuclear Regulatory Commission for four years and was named president of Rensselaer Polytechnic Institute in 1999.

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:

- Jackson, Shirley Ann, 1946-
- Richardson, Julieanna L. (Interviewer)
- Burghelea, Neculai (Videographer)

Subjects:

- African Americans--Interviews
- Jackson, Shirley Ann, 1946---Interviews
- African American college presidents--New York (State)--Troy--Interviews
- Women college presidents--New York (State)--Troy--Interviews
- African American women physicists--Interviews
- African American women college teachers--New Jersey--Interviews
- Physics—Study and teaching (Higher).

Organizations:

- HistoryMakers® (Video oral history collection)
- The HistoryMakers® African American Video Oral History Collection
- Rensselaer Polytechnic Institute

Occupations:

- Physicist
- University President

HistoryMakers® Category:

- EducationMakers|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 Shirley Ann Jackson, November 4, 2006 and September 22, 2006. 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 Shirley Ann Jackson, Section A2006_102_001_001, TRT: 0:30:27 ?

Shirley Ann Jackson slates the interview and shares her favorites. She then discusses the background of her father, George Hiter Jackson. Jackson's father was a quiet but hard-working man who served in the United States Army during the invasion of Normandy in World War II. He later worked as a postal worker and taxi driver. Jackson's mother, Beatrice Cosby Jackson, grew up as the youngest of seven children. She completed high school and taught for a short period of time before she met and married Jackson's father. Jackson is the second of four children. She recalls her childhood in Washington, D.C., describing her elementary school experiences in segregated schools, prior to the case of Brown v. Board of Education in 1954. She also shares vivid descriptions of her childhood home on Farragut Street, N.W. in Washington, D.C., and the structured nature of regular routines in her home.

Segregation in education--Washington (D.C.).

African American families--Washington (D.C.).

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_001_002, TRT: 0:29:52 ?

Shirley Ann Jackson discusses how her mother, Beatrice Cosby Jackson, worked in a home for mentally handicapped children in Laurel, Maryland. Jackson then talks about her childhood home environment, neighborhood, and elementary school in detail. Jackson describes her parents as soft-spoken, but encouraging. She then recalls the transition to her neighborhood school, Barnard Elementary

School, after the ruling of Brown v. Board of Education in 1954. Jackson consistently did well in school, but remembers the change in competition amongst her peers at Barnard, the majority of whom were white and came from well-educated middle class backgrounds. After performing well on an "I.Q." test in sixth grade, Jackson was placed on her school's honors track. As a youth, Jackson enjoyed spending time at the library, but she was also social. She formed a group with some of the other African American girls in her class called "Teens of Personality," or "TOPS."

Washington (D.C.)--Social life and customs.

African American high school students.

African Americans--Washington (D.C.)--Social life and customs.

School integration--Washington (D.C.).

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_001_003, TRT: 0:30:11 ?

Shirley Ann Jackson traces her education from elementary school to high school and comments on the changing demographics of her school from segregation to integration and back to a system of de-facto re-segregation. She discusses her teachers and her fondness for some of her teachers. By the time she was a senior in high school, Jackson took college-level classes as part of the honors program, and she graduated as valedictorian of Roosevelt High School in 1964. She recalls her love of math and her interest in studying bumblebees during the summer. She then describes her perspectives on the social climate, noting the measures her parents took to keep their family safe. She remembers the March on Washington in 1963 and listening to Rev. Dr. Martin Luther King's speech. Jackson closes this section of the interview discussing her college application process and her choice to study at Massachusetts Institute of Technology.

African American families--Washington (D.C.).

African American high school students.

Massachusetts Institute of Technology--Admissions.

School integration--Washington (D.C.).

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_001_004, TRT: 0:29:20 ?

Shirley Ann Jackson returns to the topic of integrating Barnard Elementary School in Washington, D.C., and her respect for her black female teachers. Jackson then discusses receiving two competitive scholarships and her transition to college life at Massachusetts Institute of Technology. In her entering class of nine hundred students, there were only forty-three women and five African Americans. Jackson and Jenny Rudd were the only two African American women in their class. Jackson recalls living in the same room in McCormack Hall throughout her time at MIT. She remained distant from her peers at MIT, but found a social outlet in pledging for the Iota Chapter of the sorority, Delta Sigma Theta Sorority. The sorority drew members from schools across New England. Jackson also found an outlet in volunteering at the Boston City Hospital, working with children with serious diseases and deformities.

Delta Sigma Theta Public Service Sorority--Membership.

School integration--Washington (D.C.).

Massachusetts Institute of Technology--Social life and customs.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_001_005, TRT: 0:29:37 ?

Shirley Ann Jackson recalls her college years at Massachusetts Institute of

Technology. She was admitted in 1963, and describes working in the laboratory of John Wolfe, where she learned how to formulate gold iron alloys for studies in Ferromagnetism. Due to the unwelcoming campus atmosphere, Jackson had difficulty in motivating herself to attend class on Mondays during the second half of her sophomore year. Jackson continued to do well in her classes, however, and declared her concentration in electrical engineering. During the summer after her sophomore year, Jackson returned home to work for Martin Marietta Corporation, one of the organizations that had given her a four-year college scholarship. Jackson had negative experiences and left the position one month into the summer, opting to work for the superintendent of schools. Jackson recalls Jerry Friedman and Tony French as two of her physics professors.

Massachusetts Institute of Technology--Students.

Martin Marietta Corporation--Employees.

Ferromagnetism--Mathematics.

Electrical engineering--Study and teaching.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_001_006, TRT: 0:30:27 ?

Shirley Ann Jackson talks about some of the black faculty at MIT. She became the president of the Iota Chapter of the sorority, Delta Sigma Theta Sorority during her junior year at MIT. Jackson then discusses her application to graduate school and with the assassination of Rev. Dr. Martin Luther King, Jr., her decision to stay at MIT to continue her graduate studies and work to improve the quality of education for minorities at MIT. With some of the other black students on campus, Jackson created the black student union and was later a part of the Task Force on Educational Opportunity.

Massachusetts Institute of Technology--Faculty.

King, Martin Luther, Jr., 1929-1968--Assassination.

Delta Sigma Theta Public Service Sorority--Elections.

Civil rights movements.

Mentoring in education--United States.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_007, TRT: 0:30:55 ?

Shirley Ann Jackson discusses her involvement with the Delta Sigma Theta Sorority during her college years at Massachusetts Institute of Technology. She served as president of the organization during her junior and senior years and recalls how her pledge class had to essentially rebuild the organization after a large group of seniors graduated. She then describes the experience of moving from the segregated yet sheltered environment of her neighborhood in Washington, D.C. to the unfriendly and often hostile environment of Boston, Massachusetts. After discussing her motivation for continuing her education in light of such adversity, Jackson talks about her summer employment and undergraduate research topics.

Delta Sigma Theta Public Service Sorority.

Race relations—Massachusetts—Boston.

Massachusetts Institute of Technology.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_008, TRT: 0:29:28 ?

Shirley Ann Jackson discusses how she earned her B.S. degree in both physics and materials science in 1968. She opted to stay at Massachusetts Institute of

Technology (MIT) with hopes of improving the quality of education for minorities and women. Jackson ultimately studied theoretical elementary particle physics for graduate school. She discusses the topics of her graduate research under her advisor, James Young. Jackson also discusses how she continued to build a network of support for minorities at Massachusetts Institute of Technology. Jackson was co-founder of the black student union, a member of the Task Force on Educational Opportunity, and a continuous participant and supporter of Project Interphase, a summer program created to support minorities in their transition to college life at MIT.

Massachusetts Institute of Technology.

Washington (D.C.).

Physics--Study and teaching (Higher).

Mentoring.

Student activities--Massachusetts--Cambridge.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_009, TRT: 0:30:30 ?

Shirley Ann Jackson describes her professional career after receiving of her Ph.D. from Massachusetts Institute of Technology in 1973. She worked with Fermi Lab for a couple years, and she received a fellowship from the Ford Foundation to work at the European Center for Nuclear Research in 1975. After discussing her desire to change the direction of her career to focus on solid state physics, Jackson recalls how she was hired by Bell Laboratories in 1976. She details her research and explains its practical applications in modern technology.

AT & T Bell Laboratories--Employees.

Semiconductors--Technological innovations.

American Physical Society.

Employment--Physicist

Fermilab TM.

European Council for Nuclear Research.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_010, TRT: 0:29:54 ?

Shirley Ann Jackson discusses the relevance of her research work and its applications to modern technology. She then talks about meeting her husband, an experimental physicist, and starting a family while they were both working at Bell Laboratories. Jackson gave birth to her son, Alan, in 1981. Jackson then describes her path to becoming involved in science, technology and public policy. Her first advisory position was as a member of the board of New Jersey Resources from 1982 to 1995. Jackson was also involved with many of the support programs for minorities and women at Bell Laboratories. She served in executive capacities in both the American Physical Society and the American Institute of Physics. She later served on the board of the New Jersey Commission on Science and Technology, the board for the Public Service Enterprise Group, and as head of the board of the Nuclear Oversight Committee.

AT & T Bell Laboratories--Employees.

American Institute of Physics.

New Jersey Commission on Science and Technology.

Nuclear Regulatory Commission (U.S.).

African Americans--Marriage.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_011, TRT:

0:30:10 ?

Shirley Ann Jackson discusses her role on the advisory boards of New Jersey Resources, Public Service Enterprise and the Nuclear Oversight Committee, the Institute of Nuclear Power Operations, Core States and Sealed Air Company. Jackson became a consultant for Bell Laboratories and a professor at Rutgers University prior to being appointed chair of the Nuclear Regulatory Commission (NRC) under the administration of President William Clinton. She was confronted with a number of issues during her tenure including the Government Results and Performance Act, the safety of material in nuclear operations in former Soviet States, the principle of design basis documentation for the construction and upkeep of nuclear power plants, and the application renewal process for older nuclear power plants.

AT & T Bell Laboratories.

Advisory Boards--United States.

Rural-urban migration--United States.

Nuclear Regulatory Commission (U.S.).

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_012, TRT: 0:30:50 ?

Shirley Ann Jackson discusses her work with the Nuclear Regulatory Commission (NRC). Jackson created the International Nuclear Regulators Association (INRA) in 1997 and served as its chair for the following two years. Through the INRA, the United States and other western countries worked with nuclear power plants in the former Soviet States to improve their safety standards and regulations. Jackson also researched the issues involved with closing the Millstone power plant in Connecticut and in implementing the license renewal program for nuclear power plants. Jackson also worked closely with Russia and South Africa during her tenure. She closes this section of this interview by describing her appointment and the lengthy security clearance process to become a commissioner of the Nuclear Regulatory Commission in 1995.

Nuclear Regulatory Commission (U.S.).

Three Mile Island Nuclear Power Plant (Pa.).

Chernobyl Accident, Chornobyl', Ukraine, 1986.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_013, TRT: 0:30:36 ?

Shirley Ann Jackson discusses her appointment to the Nuclear Regulatory Commission and her strategies for managing the activities of the NRC in light of monthly hearings before Congress. In 1998, Jackson was asked by President Clinton to serve another term as chairman of the Nuclear Regulatory Commission (NRC), but she was also contacted about serving as president of Rensselaer Polytechnic Institute (RPI). Jackson opted for the latter, explaining that she had accomplished much of what she had set out to accomplish as chairman of the NRC. Jackson briefly talks about the history of RPI before discussing her goals for the direction of RPI. Within a year after the plans were approved by the board of trustees, the school received a \$360 million unrestricted gift commitment. Since the beginning of Jackson's tenure as president, RPI has also expanded its research into biotechnology and the life sciences.

Clinton, Bill, 1946-.

Biden, Robert Hunter, 1970-.

Nuclear Regulatory Commission (U.S.).

Rensselaer Polytechnic Institute. Employees.

Educational fund raising.

Video Oral History Interview with Shirley Ann Jackson, Section A2006_102_002_014, TRT: 0:30:48 ?

Shirley Ann Jackson discusses the success of Rensselaer Polytechnic Institute (RPI) in six academic areas, including biotechnology, nano-technology, and the arts. RPI has also worked to improve undergraduate education. Jackson served as president of the American Association for the Advancement of Science in 2000. During her tenure, she spoke on an issue she named the “Quiet Crisis,” or the declining population of qualified American researchers and scientists. She argues that a greater effort is needed to attract minorities and women to the fields of science and engineering. Jackson also shares her perspectives on energy security, citing the need for improved technology and innovation. She ends the interview by reflecting on her legacy, hoping that her work with various institutions will allow them to address some of the issues of the twenty-first century.

African American college presidents.

African American physicists.

Rensselaer Polytechnic Institute--Employees.

Science--Study and teaching (Higher).