

Finding Aid to The HistoryMakers® Video Oral History with Joseph Francisco

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Francisco, Joseph S., 1955-
Title:	The HistoryMakers® Video Oral History Interview with Joseph Francisco,
Dates:	June 28, 2013
Bulk Dates:	2013
Physical Description:	11 uncompressed MOV digital video files (5:17:39).
Abstract:	Chemical physicist Joseph Francisco (1955 -) , the William E. Moore Distinguished Professor of Earth and Atmospheric Sciences and Chemistry at Purdue University, served as a fellow of the American Physical Society and president of the American Chemical Society. Francisco was interviewed by The HistoryMakers® on June 28, 2013, in Chicago, Illinois. This collection is comprised of the original video footage of the interview.
Identification:	A2013_176
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Chemical physicist Joseph Salvadore Francisco was born on March 26, 1955 in New Orleans, Louisiana. He was raised by his grandparents, Merlin and Sarah Walker in Beaumont, Texas. He graduated from Forest Park High School in 1973. After earning his B.S. degree in chemistry from the University of Texas at Austin in 1977, Francisco went on to receive his Ph.D. degree in chemistry from the Massachusetts Institute of Technology (MIT) in 1983. Francisco worked as a research fellow at Cambridge University in England from 1983 to 1985, and then

returned to MIT where he served as a provost postdoctoral fellow.

In 1986, Francisco was appointed as an assistant professor of chemistry at Wayne State University. He then served at California Institute of Technology as a visiting associate in the Planetary Science Division in 1991, and as a John Simon Guggenheim Fellow in the Jet Propulsion Laboratory in 1993. In 1995, Francisco was appointed as a full professor at Purdue University; and, in 2005, he became the William E. Moore Distinguished Professor of Earth and Atmospheric Sciences and Chemistry. In addition, Francisco served as a senior visiting fellow in the Institute of Advanced Studies at the University of Bologna; as a Professeur Invité at the Université de Paris; as a visiting professor at Uppsala Universitet in Sweden; and was chosen as an honorary international chair and professor by National Taipei University in Taiwan.

Francisco co-authored the textbook *Chemical Kinetics and Dynamics* published by Prentice-Hall and translated later in Japanese. He has also published over 475 peer reviewed publications in the fields of atmospheric chemistry, chemical kinetics, quantum chemistry, laser photochemistry and spectroscopy. Francisco served as editor of the atmospheric and ocean science section of *Pure and Applied Geophysics*, and on the editorial advisory boards of *Spectrochimica Acta Part A*, *Journal of Molecular Structure: THEOCHEM*, and *Theoretical Chemistry Accounts*, and the *Journal of Physical Chemistry*.

From 1994 to 1996, Francisco was appointed to the Naval Research Advisory Committee for the Department of Navy. He served as president and board member of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers and the American Chemical Society. President Barack Obama appointed Francisco as a member of the President's Committee on the National Medal of Science from 2010 to 2012. He also served as a member of the U.S. National Academy of Sciences and is an honorary life member of the Israel Chemical Society.

Francisco was elected as a fellow of the American Chemical Society, the American Academy of Arts and Sciences, the American Physical Society, and the American Association for the Advancement of Science. Francisco received the Percy L. Julian Award for Pure and Applied Research, the McCoy Award, the Edward W. Morley Medal, and the Alexander von Humboldt Award. He also received Honorary Doctorate of Science Degrees from Tuskegee University, the University of Arkansas at Little Rock, the University of South Florida, and Knox College.

Chemical physicist Joeseeph Salvadore Francisco was interviewed by *The*

Scope and Content

This life oral history interview with Joseph Francisco was conducted by Julieanna L. Richardson on June 28, 2013, in Chicago, Illinois, and was recorded on 11 uncompressed MOV digital video files. Chemical physicist Joseph Francisco (1955 -), the William E. Moore Distinguished Professor of Earth and Atmospheric Sciences and Chemistry at Purdue University, served as a fellow of the American Physical Society and president of the American Chemical Society.

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:

Francisco, Joseph S., 1955-

Richardson, Julieanna L. (Interviewer)

Stearns, Scott (Videographer)

Subjects:

African Americans--Interviews

Francisco, Joseph S., 1955---Interviews

African American chemists--Interviews.

African American physicists--Interviews.

Organizations:

HistoryMakers® (Video oral history collection)

The HistoryMakers® African American Video Oral History Collection

Purdue University

Occupations:

Chemical Physicist

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 Joseph Francisco, June 28, 2013. The HistoryMakers® African American Video Oral History Collection, 1900 S. Michigan Avenue, Chicago, Illinois.

Processing Information

This interview collection was processed and encoded on 2/5/2020 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 Joseph Francisco, Section
A2013_176_001_001, TRT: 1:30:17 2013/06/28

Joseph Francisco slates the interview and lists his favorites. Francisco was born March 6, 1955 in New Orleans, Louisiana. His grandfather, Joseph Francisco the First, came to New Orleans from Italy to work in the sugar cane fields. His father, Joseph Francisco the Second, was born in New Orleans and was a tailor. Francisco's mother,

Lucinda Antoine Lang, worked as the help in New Orleans and met his father. Two months after Francisco's birth his parents divorced and he moved to Beaumont, Texas to live with his grandmother, Sarah Johnson, and his step-grandfather, Merlin Walker. Francisco talks about growing up in their household and describes their neighborhood in Beaumont. As a child Francisco raised many animals and obtained a job at a pharmacy to pay for their food.

African American families--Louisiana--New Orleans.
Immigrants--Louisiana.

African American fathers--Louisiana--New Orleans..

African American mothers--Louisiana--New Orleans..

Children of divorced parents.

Grandparents as parents--Texas.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_002, TRT: 2:28:46 2013/06/28

Joseph Francisco talks about his summers visiting his mother, Lucinda Atoine Lang, half-sister, and grandfather, Edward Lang, in New Orleans, Louisiana. Francisco lived with his step-grandfather, Merlin Fowler, and grandmother, Sarah Johnson, since he was born in 1955 and he had a close relationship with his step-grandfather. As a child Francisco was fascinated by chemistry, studying books from the library and performing home experiments. His grandparents encouraged his interest even though one of his experiments set his grandparents' kitchen on fire. Because neither his step-grandfather or his grandmother had much education, Francisco started doing the books for their real estate business at the age of ten. He also worked at a pharmacy owned by Dr. Allen Fowler, where he became fascinated with the molecular structures of the medicines.

Vacations--Louisiana--New Orleans.

Grandparents as parents.

Chemistry--Experiments.

Family-owned business enterprises.

Teenagers--Employment.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_003, TRT: 3:30:17 2013/06/28

Joseph Francisco describes why he chose to attend Forest Park High School in Beaumont, Texas. Because the school was predominately white, Francisco had low expectations placed on him, which he found liberating. During his junior year Francisco met Dr. Edwin Eads at Lamar University, who taught him how a gas chromatograph worked. Francisco then researched the instrument and built a functioning with scraps from the junk yard and ten dollars. When he submitted it in the science fair in 1972 it won first in his district and third in the state of Texas. Francisco discusses the mentoring of John Flannery, his high school teacher, and Dr. Richard Price, a professor at Lamar University who encouraged his educational success as well as assisted Francisco after his grandparents died. Francisco also talks about the lack of college counseling he received in high school.

Education, Secondary--Texas.

Segregation in education--Texas.

Role models.

Science fairs--Texas.

Mentoring in education.

Lamar University.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_004, TRT: 4:30:26 2013/06/28

Joseph Francisco describes how he was accepted into the University of Texas at Austin and why he decided to attend. Francisco was part of an experimental group of African American students admitted to the University of Texas in 1973. His roommate freshman year who eventually left the room because Francisco was African American. Francisco took an introductory chemistry course with Dr. Raymond Davis, who noticed his potential and hired him to work in his laboratory. Francisco describes being exposed to graduate students and the laboratory's research on x-ray crystallography and the structure of molecules. Dr. Davis helped Francisco get selected as a sophomore to spend a summer at Argonne

National Laboratory in Lemont, Illinois and research neutron diffraction. Because Francisco could not afford a plane ticket to Chicago, Illinois he spent the beginning of the summer as an air conditioning repairman.

University of Texas at Austin.

College integration--Texas.

Racism in education.

Davis, Raymond E., 1938-

Poverty.

Video Oral History Interview with Joseph Francisco, Section A2013_176_001_005, TRT: 5:29:58 2013/06/28

University of Texas at Austin.

Lagowski, J. J.

Inorganic chemistry.

Monsanto Company.

Death.

Massachusetts Institute of Technology.

Steinfeld, Jeffrey I.

Video Oral History Interview with Joseph Francisco, Section A2013_176_001_006, TRT: 6:28:57 2013/06/28

Joseph Francisco describes his doctoral research under Dr. Jeffrey Steinfeld, which involved using lasers to selectively energize atomic bonds. This research was used in the enrichment of uranium for nuclear energy and weaponry. Dr. Robert Gilbert noticed Francisco's work and invited Francisco to come to the University of Sydney in Sydney, Australia to work on the theory behind his experiments at. Francisco did this as part of his doctoral research at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts. Francisco obtained his Ph.D. degree from MIT in 1983 and decided to become a postdoctoral research fellow at Cambridge University in Cambridge, England. While at Cambridge University Francisco became interested in atmospheric chemistry and how lasers could be used to prepare unstable new species of molecules.

Steinfeld, Jeffrey I.

Lasers--Research.

Nuclear physics.

University of Sydney.

Gilbert, Robert G.

Massachusetts Institute of Technology.

University of Cambridge.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_007, TRT: 7:32:39 2013/06/28

Joseph Francisco describes his decision to focus on atmospheric chemistry when he started his independent research career. While a postdoctoral fellow at Cambridge University in Cambridge, England, Francisco worked independently on some preparatory work for his research at Wayne State University. In 1986, Francisco became a professor at Wayne State University in Detroit Michigan, where he discovered key fragment species of chlorofluorocarbon. His discovery was met with opposition from both researchers and industry, but he found support from researchers abroad. After this discovery Francisco collaborated with the Jet Propulsion Laboratory in Pasadena, California, serving as a John Simon Guggenheim Fellow in 1993. Francisco talks about the use of lasers in his research and the underlying themes of his research.

Atmospheric chemistry.

University of Cambridge.

Wayne State University.

Chlorofluorocarbons.

Jet Propulsion Laboratory (U.S.).

Lasers--Research.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_008, TRT: 8:36:42 2013/06/28

Joseph Francisco describes some of the fragment species of chlorofluorocarbon that he discovered while at Wayne State University in Detroit, Michigan. He explains why he left Wayne State in 1995 to become a professor at Purdue University in Lafayette, Indiana. Francisco is credited with revolutionizing the field of computational atmospheric

chemistry, the area of his research. Francisco also discusses how he formulates research questions, how innovation in laser technology has impacted chemistry research, and the topic of dual-use chemistry.

Chlorofluorocarbons.

Wayne State University.

Purdue University.

Atmospheric chemistry.

Lasers--Research.

Chirality.

Chemistry, Physical and theoretical.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_009, TRT: 9:34:04 2013/06/28

Joseph Francisco describes his approach of using multiple teaching methods in chemical education, about which he published several articles in 'Chemical Education.' He also talks about STEM (science, technology, engineering, and mathematics) curricula in the United States. In 2010, Francisco was elected president of the American Chemical Society. He was the second African American to hold that position, as Henry Hill had been president in 1977. He discusses how he was elected and his major accomplishments as president. His accomplishments include the creation of a website of global opportunities for chemists and an American Chemical Society entrepreneurial center to help young chemical entrepreneurs.

Chemistry--Study and teaching.

Technical education--United States.

Science--Study and teaching.

American Chemical Society.

Entrepreneurship.

Hill, Henry Aaron, 1915-1979.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_010, TRT: 10:21:29 2013/06/28

Joseph Francisco begins this segment by discussing his next steps in research and chemical education. Francisco describes the complexity of the American Chemical

Society (ACS) and how the National Organization for Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) was formed as an offshoot of ACS. Francisco talks about the legacy of Henry Hill, the first African American president of ACS. Francisco has served as president of ACS in 2010 and as president of NOBCChE from 2006 to 2008. Francisco reflects on his legacy and shares his hopes and concerns for the African American community.

Chemistry--Research.

Chemistry--Study and teaching.

American Chemical Society.

National Organization for Black Chemists and Chemical Engineers.

Hill, Henry Aaron, 1915-1979.

Reminiscing.

Video Oral History Interview with Joseph Francisco, Section
A2013_176_001_011, TRT: 11:14:04 2013/06/28

Joseph Francisco describes his photographs.

Photographs.