

Finding Aid to The HistoryMakers® Video Oral History with James Hubbard, Jr.

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Hubbard, James E. (James Edward), 1951-
Title:	The HistoryMakers® Video Oral History Interview with James Hubbard, Jr.,
Dates:	May 19, 2013
Bulk Dates:	2013
Physical Description:	8 uncompressed MOV digital video files (3:38:31).
Abstract:	Mechanical engineer and engineering professor James Hubbard, Jr. (1951 -) served in the U.S. Merchant Marine during the Vietnam War and became the youngest serviceman to receive the unlimited horsepower, steam and diesel engine Marine Engineering license from the U.S. Coast Guard. Hubbard is the Samuel P. Langley Distinguished Professor Aerospace Engineering at the University of Maryland. Hubbard was interviewed by The HistoryMakers® on May 19, 2013, in Hampton, Virginia. This collection is comprised of the original video footage of the interview.
Identification:	A2013_090
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Mechanical engineer and engineering professor James Edward Hubbard, Jr. was born on December 21, 1951 in Danville, Virginia. Hubbard received his high school diploma with a concentration in engineering in 1969 from the Baltimore Polytechnic Institute. In 1971, he enlisted as an officer in the U.S. Merchant Marine and served during the Vietnam War. He attended the Calhoon MEBA

Marine Engineering School and became the youngest serviceman to receive the unlimited horsepower, steam and diesel engine Marine Engineering license from the U.S. Coast Guard. Returning to the United States, Hubbard began his undergraduate studies at Morgan State College, but after receiving encouragement from teachers, family and friends, he enrolled at the Massachusetts Institute of Technology (MIT). Hubbard went on to graduate from MIT with his B.S., M.S., and Ph.D. degrees in mechanical engineering in 1977, 1979, and 1982, respectively.

Hubbard has served as a professor and a researcher both inside and outside of academia. After receiving his Ph.D. degree, Hubbard continued his work as an assistant professor of mechanical engineering at MIT until 1985, and as a lecturer until 1994. While there, he mentored both graduate- and doctorate-level students. Following his tenure with MIT, Hubbard was hired at the Boston University Photonics Center, PhotoSense, Inc. and iProvica. In 2004, Hubbard returned to academia and was named the Samuel P. Langley Distinguished Professor Aerospace Engineering at the University of Maryland. Hubbard's research has included sensors and system concepts, optoelectronics, and photonics. His work in 1985 resulted in the production of what many consider the first example of an "adaptive structure," or a structure that can respond to changes in its environment. He also received a patent for his work with "Smart Skin" technology, or a large-area blanket-like sensor that could be used in a number of applications. His work with the Morpheus Laboratory, Hubbard's research group at the University of Maryland and NIA, has focused on aerodynamic engineering and has resulted in such projects as ornithopters and the Sky Walker program.

Hubbard is a member of the Air Force Studies Board, the Naval Research Advisory Committee, and the Committee on Space Defense Technology. He has garnered several awards in recognition of his work in both industrial and academic settings. Hubbard was the 2009 recipient of the Smart Structures Product Innovation Award from the International Society for Optical Engineering. In 2002, Hubbard received the Black Engineer of the Year President's Award from *U.S. Black Engineer & Information Technology* magazine.

Hubbard and his wife, Adrienne Hubbard, have three adult sons: James, Drew, and Jordan.

James Edward Hubbard, Jr. was interviewed by *The HistoryMakers* on May 19, 2013.

This life oral history interview with James Hubbard, Jr. was conducted by Larry Crowe on May 19, 2013, in Hampton, Virginia, and was recorded on 8 uncompressed MOV digital video files. Mechanical engineer and engineering professor James Hubbard, Jr. (1951 -) served in the U.S. Merchant Marine during the Vietnam War and became the youngest serviceman to receive the unlimited horsepower, steam and diesel engine Marine Engineering license from the U.S. Coast Guard. Hubbard is the Samuel P. Langley Distinguished Professor Aerospace Engineering at the University of Maryland.

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:

Hubbard, James E. (James Edward), 1951-

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

Subjects:

African Americans--Interviews

Hubbard, James E. (James Edward), 1951---Interviews

Organizations:

HistoryMakers® (Video oral history collection)

The HistoryMakers® African American Video Oral History Collection

Massachusetts Institute of Technology

University of Maryland, College Park

Occupations:

Mechanical Engineer

Engineering Professor

HistoryMakers® Category:

ScienceMakers|EducationMakers

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 James Hubbard, Jr., May 19, 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 James Hubbard, Jr., Section A2013_090_001_001, TRT: 1:30:05 2013/05/19

James Hubbard describes his family's background. His mother, Lillie Echols Hubbard was born in Danville, Virginia around 1929. Her father, McKinley (sp) Echols worked as a mechanic at a car dealership for fifty years, and her mother, Geneva Echols was a homemaker. Hubbard's father, James Edward Hubbard, Senior, was born around 1920 in Ringgold, Virginia, as one of fourteen children of Maggie and George Washington Hubbard.

After his father's untimely death, Hubbard, Sr., bore the responsibility of helping to raise his thirteen siblings. Hubbard talks about his father's employment at Dan River Cotton Mill, and his determination to escape the Jim Crow laws of Virginia to look for better opportunities in Philadelphia, Pennsylvania. Hubbard talks about how his parents met and were married, and their reasons for living separately. He also talks about spending 1956 with his father in Philadelphia, and growing up in the Liberty Hill projects in Danville.

Affirmative action programs.

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Video Oral History Interview with James Hubbard, Jr., Section
A2013_090_001_002, TRT: 2:31:43 2013/05/19

James Hubbard was raised in Danville, Virginia until the age of eleven. He attended E.A. Gibson Elementary School, and fondly recalls his teachers, Ms. Shepherd and Ms. Moretta Byrd. Hubbard attended Calvary Baptist Church, which had been his maternal family's church for generations. Hubbard describes growing up in the Liberty Hill projects of Danville, the Civil Rights Movement in Danville, the horrors of the 1963 Bloody Monday, his mother's involvement in the Movement, and her resulting imprisonment. Soon after his mother's release, Hubbard's family moved to Baltimore, Maryland, where he attended Robert Poole School. He describes the impact of his experience of being bullied at this school, and how it shaped his personality.

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Video Oral History Interview with James Hubbard, Jr., Section
A2013_090_001_003, TRT: 3:28:41 2013/05/19

James Hubbard attended high school at Baltimore Polytechnic Institute, and describes his experience there. As a teenager, Hubbard joined the United States Naval Sea Cadet Corps, and became a petty officer at the age of fourteen. Following an incident where his fellow group of cadets in the Tecumseh Division was court-martialed, the group was then re-organized into the Maryland Naval Militia, where he rose to become a lieutenant. Hubbard describes his experience as a Sea Cadet and as a Merchant Marine. He discusses his experience at the Calhoun Marine Engineers Beneficial Association (MEBA), and as a ship engineer on an ammunition ship in the Vietnam War from 1970 to 1971. Hubbard also reflects upon the impact of his paramilitary training, and racism amongst American forces in Vietnam. He returned to the U.S. in 1972, and used his earnings from the Merchant Marine to buy his mother her first home.

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Video Oral History Interview with James Hubbard, Jr., Section A2013_090_001_004, TRT: 4:28:21 2013/05/19

In 1972, James Hubbard returned to Baltimore, Maryland from his assignment in the Merchant Marines in the Vietnam War. He talks about the troubled period that followed his return from Vietnam. Hubbard attended Morgan State University for four years, where he took courses towards a physics major. He talks about the people who influenced his transfer to the Massachusetts Institute of Technology (MIT) in 1975, where he was mentored by Herb Richardson, Wesley Harris, Clarence Williams and Donald Fraser. At MIT, Hubbard became involved with the Black Mechanical Engineers (BME), received several student awards, and interacted with other African American students such as HistoryMaker, Shirley Jackson. Hubbard earned his B.S., M.S. and Ph.D. degrees in mechanical engineering at MIT, in 1977, 1978 and 1982, respectively. He pursued his doctoral dissertation in

helicopter rotor acoustics under the tutelage of Professor Wesley Harris.

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Video Oral History Interview with James Hubbard, Jr., Section A2013_090_001_005, TRT: 5:29:24 2013/05/19

In 1982, James Hubbard earned his Ph.D. degree in mathematics at the Massachusetts Institute of Technology (MIT), and went on to become an assistant professor in the department of mechanical engineering there. Hubbard talks about his financial struggles as a student, the rigors of graduate school at MIT, and the important lesson that he learned from his mentor, Wesley Harris. He describes his doctoral research on helicopter rotor acoustics, his contributions to the field of piezoelectricity and smart structures, and his decision to leave MIT in 1985. After leaving MIT, Hubbard continued to work at the Charles Stark Draper Laboratory in Cambridge, Massachusetts, and in 1991, he was recruited by HistoryMaker, Cardinal Warde, to join his small business, Optron Systems, Inc.

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Video Oral History Interview with James Hubbard, Jr., Section A2013_090_001_006, TRT: 6:28:08 2013/05/19

After leaving the Massachusetts Institute of Technology (MIT) in 1985, James Hubbard worked at Charles Stark Draper Laboratory on developing photolithography techniques. In 1991, Hubbard was recruited as the executive vice president of Optron Systems, Inc., a research and development firm that was established by HistoryMaker, Cardinal Warde. In 1995, Hubbard went on to Boston University where he helped establish the

Photonics Center. He talks about co-founding two companies, PhotoSense, Inc. and iProvica, Inc. Hubbard discusses his invention of Smart Skin, and its related patents. In 2004, Hubbard became the Langley Distinguished Professor of Aerospace at the University of Maryland, when he returned to academia after a twenty-five year absence. He serves in this position at the National Aerospace Institute (NIA) at Hampton, Virginia. Hubbard also talks about his experiences as a mentor.

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Video Oral History Interview with James Hubbard, Jr., Section A2013_090_001_007, TRT: 7:28:27 2013/05/19

In 2004, James Hubbard began working at the National Institute of Aerospace (NIA) in Hampton, Virginia, where his first project focused on the Sky Walker Program which was funded by DARPA (Defense Advanced Research Projects Agency). He describes the details of his work. Hubbard also talks about his work with the 'Air Wolf' project. In this section of the interview, Hubbard talks about his wife and their sons, discusses co-founding a company with his oldest son, and reflects upon his life and legacy. In 2000, Hubbard received the 'Key to the City' in his hometown of Danville, Virginia.

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Video Oral History Interview with James Hubbard, Jr., Section A2013_090_001_008, TRT: 8:13:42 2013/05/19

In this final section of the interview, James Hubbard reminisces about his father's training as a pilot on the GI Bill, and his purchase of his own Piper Cub plane that he flew recreationally. Hubbard also reflects upon his hopes

and concerns for the African American community, and shares his perspectives on today's generation. He closes his interview by describing how he would like to be remembered.

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