Finding Aid to The HistoryMakers ® Video Oral History with Clifford Johnson

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Johnson, Clifford V. (Clifford Victor), 1968 -
Title:	The HistoryMakers® Video Oral History Interview with Clifford Johnson,
Dates:	April 26, 2011
Bulk Dates:	2011
Physical Description:	11 uncompressed MOV digital video files (5:24:06).
Abstract:	Physics professor and physicist Clifford Johnson (1968 -) was identified as the most cited black mathematician in 2005. His research at the University of Southern California has focused on D-branes, quantum gravity, gauge theory, and M-theory. Johnson was interviewed by The HistoryMakers® on April 26, 2011, in Los Angeles, California. This collection is comprised of the original video footage of the interview.
Identification:	A2011_034
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Physicist and physics professor Clifford Johnson was born in 1968 in London, England. Growing up, Johnson spent ten years on the Caribbean island of Montserrat, where his father worked as a telephone engineer. As a child, Johnson began to teach himself electronics by secretly reading his father's books. In lieu of watching television, Johnson read electronics books and magazines, fixed appliances, and designed devices and machines such as radios and remote-controlled submarines. He also enjoyed gardening and making intricate patterned designs using needlework techniques such as crochet and macramé. Due to his interest in how things worked, Johnson decided at an early age he wanted to become a scientist. He went on to receive his B.S. degree in physics from the Imperial College at London University in 1989 and his Ph.D. degree in physics from Southampton University in 1992.

After graduating, Johnson began working as a postdoctoral fellow at the Institute for Advanced Study in Princeton, New Jersey, and in 1994, he moved to Princeton University as an instructor and post doctoral fellow. The following year, he became a postdoctoral fellow at the Kavli Institute for Theoretical Physics in Santa Barbara, California. Johnson taught as an assistant professor at the University of Kentucky between 1997 and 1999 before joining the faculty at the University of Durham, England. Since 2003, Johnson has been a professor at the University of Southern California’s Department of Physics and Astronomy. In 2004, Johnson founded the African Summer Theory Institute, which held its inaugural workshop meeting in Cape Town, South Africa.

Johnson received the National Science Foundation’s (NSF) Career Award in 1997, and in 2005, he was awarded the Institute of Physics’ Maxwell Medal and Prize for his work on string theory and quantum gravity. He has also been listed in the Journal of Blacks in Higher Education as the most highly cited black professor of mathematics or a related field at an American university or college. In addition to his research and teaching, Johnson communicates and explains science to the general public. He blogs, has made short films on science, written articles for magazines, has co-authored a play, authored a book, and is currently writing and drawing a graphic novel featuring science. He appears on the History Channel’s The Universe series and other series on channels

such as Discovery, Science, National Geographic, Spike, and Comedy Central. He has been a science consultant for film, TV, radio, and theater.

Johnson was interviewed by *The HistoryMakers* on April 26, 2011.

Scope and Content

This life oral history interview with Clifford Johnson was conducted by Larry Crowe on April 26, 2011, in Los Angeles, California, and was recorded on 11 uncompressed MOV digital video files. Physics professor and physicist Clifford Johnson (1968 -) was identified as the most cited black mathematician in 2005. His research at the University of Southern California has focused on D-branes, quantum gravity, gauge theory, and M-theory.

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:

Johnson, Clifford V. (Clifford Victor), 1968 -

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

Subjects:

African Americans--Interviews
Johnson, Clifford V. (Clifford Victor), 1968 - --Interviews

Organizations:

HistoryMakers® (Video oral history collection)

The HistoryMakers® African American Video Oral History Collection

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University of Southern California

Occupations:

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 Clifford Johnson, April 26, 2011. 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 Clifford Johnson, Section A2011_034_001_001, TRT: 1:31:42 ?

Clifford Johnson talks about his family background. His mother, Delia Margaret O'Garro, was born in January of 1932 on the Caribbean island of Dominica. Her parents were Victoria and Joseph O'Garro, but she was raised by her grandmother. Johnson's father, Victor Reginald Johnson, was born in August of 1934, the youngest of seven brothers, on the Caribbean island of Montserrat. He worked for land owners on Montserrat and formed a relationship with Johnson's mother. After Johnson's parents got together, Victor went to England in 1956 or '57 during the "Windrush Era," when England sent out a call to its colonies to come work there. Johnson's mother joined him later. In England, Johnson's parents had three children, and they moved back to Montserrat in 1972 when Johnson's father was offered a job with a telephone company. Johnson attributes his attention to detail to his father, and his determination to his mother.

Caribbean families.

West Indian diaspora.

Montserrat.

Montserratians--Great Britain.

Minorities--Great Britain--History.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_002, TRT: 2:29:25 ?

Clifford Johnson recalls early memories of growing up in England. In 1972, the family returned to the island of Montserrat in the Caribbean where they lived with Ann West, Johnson's mother's aunt. Johnson describes their seaside neighborhood near the capital Plymouth, as well as the sights, sounds, and smells of growing up. After a couple of years, the family had their own house built in the hills further inland. Transportation was mostly by foot, but there were small busses eventually. Johnson describes the Soufriere Hills volcanic area of the island and what he did for fun. He enjoyed gardening, crocheting, and laying out detailed plans for things he would build. Through the latter he became interested in electronics and would often fix broken devices such as cameras. Johnson's father left around 1977 and his older brother Robert had to take a job to help support the family.

Minorities--Great Britain--Childhood and youth.

Caribbean aunts.

SoufrieÌre Hills Volcano (Montserrat).

Childhood and youth--Montserrat.

Caribbean fathers--Conduct of life.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_003, TRT: 3:28:31 ?

Clifford Johnson talks about his interest in science and his desire to become a scientist. He befriended an American from Hawaii named Phillip, whose family had an early computer. When Johnson was about eight years old, his father, Victor Johnson, went back to England. Johnson's sister and brother eventually returned to England to look for him, and when Johnson was fourteen years old, he and his mother, Delia, went too. Johnson and his mother lived in an area called Preston in Lancashire in the North of England. His father came from London to live with them eventually. Johnson describes some of the racial issues in England at the time and specifically the Brixton Riot in 1981. He attended a Catholic high school in Preston where he was able to choose his own courses and was exposed to more resources for learning.

Scientific ability.

Computers and children.

Race relations--History--Great Britain.

Brixton (London, England)--Social conditions.

Riots--England--London--History.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_004, TRT: 4:30:48 ?

Clifford Johnson talks about the school system in the Caribbean island of Montserrat. He recalls having to take entrance exams at age ten to get into Montserrat Secondary School, but failing them the first time around. Johnson eventually got eyeglasses through a Canadian eyeglasses donation program, and as a child, he was interested in comic books. He explains the differences between two popular comic book companies of the time D.C. and Marvel, as well as specific comic strips and characters such as Batman, Superman, The Green Lantern, Peter Parker, Daredevil, and The Dark Knight. Johnson was specifically interested in characters who were scientists. He talks about being underestimated at school initially, but later excelling in technical drawing and mathematics. Responding to a question about the superstring revolution of 1984, Johnson explains the development of particle physics in the 20th century and the popularization of string theory in the early 1980s.

Education--Examinations--Montserrat.

Comic books and children.

Academic achievement.

Superstring theories.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_005, TRT: 5:29:24 ?

Clifford Johnson talks about the difference between high school in Britain and in the U.S. as well as the role of class distinctions in England. In high school, Johnson was interested in guitar music and German electronic music. He built his own guitar from scratch, which was known as his "Black Widow" project. Johnson incorporated aspects of engineering and electronics into his project. He wanted his guitar to produce a variety of sounds. In high school, Johnson did not belong to any particular social groups, so he was able to move between all of them. Johnson received a grant to study physics at Imperial College of London in 1986 after graduating from high school. Johnson lived in the West End of London during college and he was exposed to British jazz. He was inspired specifically by artists such as Courtney Pine and Andy Sheppard.

High school students--Great Britain--Social conditions.

Electronic and guitar music.

High school students--Conduct of life.

Imperial College of Science and Technology.

Jazz--Great Britain.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_006, TRT: 6:32:18 ?

Clifford Johnson talks about his decision to study string theory under Tim Morris at Southampton University. The string theory of the early 1980s focused on weakly coupled strings, but Johnson's Ph.D. research showed non-perturbative stability, which dealt with strongly coupled strings. His dissertation ended up being the earliest example of open-closed duality because it explained how open and closed strings fit into the same model of string theory. Johnson explains that his research also focused on using the tools of string theory to explain other phenomena in physics. After earning his Ph.D., Johnson was awarded two fellowships, a NATO fellowship through the Engineering and Physical Sciences Research Council, and the Lindemann fellowship. He chose to do post doctoral studies at the Institute for Advanced studies in Princeton, New

Jersey, which was made famous by Albert Einstein. Johnson studied under the legendary Edward Witten.

String theory.

University of Southampton.

Engineering and Physical Sciences Research Council.

Princeton University. Institute for Advanced Study.

Einstein, Albert, 1879-1955

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_007, TRT: 7:29:21 ?

Clifford Johnson continues to talk about Edward Witten at the Institute for Advanced studies. While other people were intimidated by Witten's genius, Johnson found his voice with him and even proved him wrong at one point. After leaving the Institute for Advanced Studies, Johnson elected to do a second post doc at the University of California, Santa Barbara, where he worked closely with Joe Polchinski. Johnson's work with models under Witten actually had its origins at Santa Barbara. It was at this time, in 1995 that the second superstring revolution happened, and Polchinski was credited for the development of d branes, tools that aided the revolution. Johnson worked to make those tools and techniques accessible to physicists everywhere by writing a handbook called "Notes on D Branes." He considers the notes to be one of his great contributions because it led to the connection of people and ideas.

Princeton University. Institute for Advanced Study.

Witten, E.

Kavli Institute for Theoretical Physics.

String models.

D-branes.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_008, TRT: 8:29:09 ?

Clifford Johnson explains a day in the life of a theoretical physicist and an experimental physicist, which involves a lot of calculations and using mathematics to back up new ideas and physics principles. Johnson took a full time position at the University of Kentucky in 1998, where he was awarded a National Science Foundation grant that allowed him to produce some groundbreaking research. He talks about his 1999 publications with collaborators, Rob Myers; Roberto Emparan, and Andrew Chambling, by first explaining the 1997 proposal of AdS/CFT correspondence, which linked gravitational and non-gravitational theories. Johnson's publications explained a new class of behaviors in gravity theory, and he also worked to use string theory tools in other physics applications. In 2000, he left the University of Kentucky for the University of Durham in England, and he also proposed to his girlfriend at the time.

Physicists--Intellectual life.

Universities and colleges--Faculty.

National Science Foundation (U.S.)

Gravity—Research.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_009, TRT: 9:28:32 ?

Clifford Johnson talks about his experience at the University of Durham where he was able to accomplish a lot in his research group. Johnson joined the faculty at the University of Southern California in 2003 where he published a book that was essentially an expansion of his earlier, "Notes on D Banes." The goal of the book was to get physicists up to speed on the techniques that were necessary to

enter that field. Johnson explains that technology plays a big role in his work saying that the rapid and widespread accessibility of academic papers has served to increase the flow of information and sharing of ideas. In 2004, Johnson launched his African Summer Theory Institute, in which he presented a workshop to encourage further and cross collaboration between groups from different demographics and university levels.

Universities and colleges--Faculty.

University of Southern California. Department of Astronomy.

D-branes.

Textbooks--Authorship.

Academic-industrial collaboration.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_010, TRT: 10:28:27 ?

Clifford Johnson explains lattice theory, which involves using computational techniques to understand particle behavior. Johnson was involved in writing a play called "Dark Matter," with a playwright named Oliver Meyer, in addition to working with other media makers trying to get them to incorporate science into media. He goes on to talk about the need for science to be better integrated into culture in order to make it more accessible to the general public. Johnson participates in science television programs on The History Channel, The Discovery Channel, and National Geographic. He hopes that the general public and the African American community specifically can become more involved in science. When asked about his legacy, Johnson explains that the three components are his contributions to string theory research, his teaching, and his outreach.

Lattice theory.

Playwriting.

Dark matter (Astronomy)--Popular works.

Science television programs.

Science in popular culture.

Video Oral History Interview with Clifford Johnson, Section A2011_034_001_011, TRT: 11:26:29 ?

Clifford Johnson talks about the future of string theory saying that experimentation continues to provide clues which will expand the knowledge base. He hopes that scientists will gain a better understanding of string theory by learning more about the tools, which are often used in other areas of physics as well. Johnson talks about his family including his ex-wife, siblings, mother, and father who passed away in February of 2011. He closes the interview by saying that he would like to be remembered as someone who took the road less traveled and encouraged others to reach their full potential.

String theory.

Caribbean families.

Physicists' spouses.

Divorced men.

Bereavement.