CHEMICAL HERITAGE FOUNDATION

GEORGE M. CHURCH

Transcript of Interviews
Conducted by

David C. Brock

in

New Orleans, Louisiana

on

3 March 2008

(With Subsequent Corrections and Additions)

CHEMICAL HERITAGE FOUNDATION
Oral History Program
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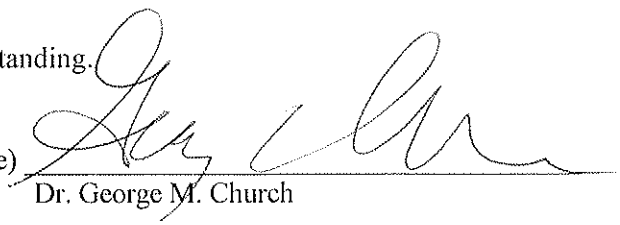
(Signature) 
Dr. George M. Church

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GEORGE M. CHURCH

1954 Born at MacDill Air Force Base, Florida, on 28 August

Education

1974 B.A., Zoology and Chemistry, Duke University
1984 Ph.D., Biochemistry and Molecular Biology, Harvard University

Professional Experience

Biogen Research Corporation, Cambridge, Massachusetts
1984 Scientist

University of California, San Francisco
1985-1986 Research Fellow, Anatomy under Gail R. Martin

Harvard Medical School
1986-1998 Assistant/Associate Professor, Genetics
1998-present Professor, Genetics

Harvard/MIT DOE Genome Technology Center
1987-present Director

The Whitehead Institute & Broad Institute Genome Centers
1990-present Senior Associate

Lipper Center for Computational Genetics, Harvard Medical School
1997-present Director

Harvard National Human Genome Research Institute Center of Excellence in Genomic Science
2004-present Director

The Harvard Wyss Institute
2007-present Operating Committee

Honors

1974-1975 National Science Foundation Pre-Doctoral Fellowship

1985-1986	Life Sciences Research Foundation Fellow
1986-1997	Howard Hughes Medical Institute Investigator
2010	Consumer Genetics Champion & Public Initiative Awards
2010	US Presidential & EPA Green Chemistry Award (LS9)
2010	Triennial International Steven Hoogendijk Award
2011	Franklin Institute Bower Prize for Achievement in Science

ABSTRACT

George M. Church was born on MacDill Air Force Base in Florida and lived near Tampa, Florida, until high school. He attended both public and Catholic schools, but says both systems were poor. As a result he read a lot, especially science, which he had always liked. When he was about ten he built an analog computer. For high school he was sent to Phillips Academy in Andover, Massachusetts, which he loved and where he throve. Dartmouth College, which was nearby, was beginning timeshare computing, and Church used their computer to teach himself more about computers.

When Church entered Duke University he found the computer there less sophisticated than the one he had used while at Andover. He took many classes, usually upper-level or graduate or independent studies (the last requiring that he have keys to the chemistry lab), and finished in two years. He took a summer course in quantum physics at Massachusetts Institute of Technology and then began a job in Sung-Hou Kim's crystallography lab. There he "finally found the intersection of computers and biology." Also during these years he published five papers.

In his self-proclaimed unconventional way, Church entered Harvard University's PhD program, doing sequencing in Walter Gilbert's lab, working on polony sequences, and developing some of the earliest sequencers; he introduced multiplexed sequencing. Next he worked a short while at Biogen Research Corporation before taking a postdoc in Gail Martin's lab at the University of California, San Francisco. He left California to be with his future wife, Ting Wu, in Boston, Massachusetts. She became a full professor with tenure at Harvard and eventually entered Church's lab.

Needing a job in Boston, Church talked to a friend, Gary Ruvkun, who offered him an assistant professorship in genetics at Harvard Medical School. Church also was made a Howard Hughes Medical Institute Investigator and given a U.S. Department of Energy grant. He has advanced through the ranks and is now Director of the Harvard-MIT Genome Technology Center and Director of the Lipper Center for Computational Genetics, as well as a full professor in genetics. Church's experience at Biogen had inspired an interest in the connection between academia and commerce, and he patented and began to license his work. He continues to be fascinated with the interface between synthesis and sequencing, believing that genomics should be functional and comparative. The Personal Genome Project in his own lab he hopes will help provide affordable personal genomics to many more people.

INTERVIEWER

David C. Brock is a senior research fellow with the Center for Contemporary History and Policy of the Chemical Heritage Foundation. As an historian of science and technology, he specializes in oral history, the history of instrumentation, and the history of semiconductor science, technology, and industry. Brock has studied the philosophy, sociology, and history of science at Brown University, the University of Edinburgh, and Princeton University (respectively and chronologically). His most recent publication is *Understanding Moore's Law: Four Decades of Innovation* (Philadelphia: Chemical Heritage Press), 2006, which he edited and to which he contributed.

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