

CHEMICAL HERITAGE FOUNDATION

MARCIA B. GOLDBERG

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Helene L. Cohen

at

Harvard School of Public Health
Cambridge, Massachusetts

on

1-2 November, 1999

From the Original Collection of the University of California, Los Angeles

ACKNOWLEDGEMENT

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UNIVERSITY OF CALIFORNIA, LOS ANGELES

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Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about November 1, 1999, and tentatively entitled "Interview with Marcia B. Goldberg". This Agreement relates to any and all materials originating from the interviews, namely the tape recordings of the interviews and a written manuscript prepared from the tapes, hereinafter collectively called "the Work."

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Attention: Director

If to Interviewee: Marcia B. Goldberg
Harvard School of Public Health
651 Huntington Avenue
Boston, Massachusetts 02115

University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE

THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA

Marcia B. Goldberg
(Signature)

Dale E. Treleven
(Signature)

Marcia B. Goldberg
(Typed Name)

Dale E. Treleven
(Typed Name)

Harvard School of Public Health
(Address)

Director, Oral History Program
(Title)

Boston, Massachusetts 02115 C

Date 11/2/99

Date December 14, 1999

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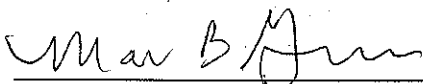
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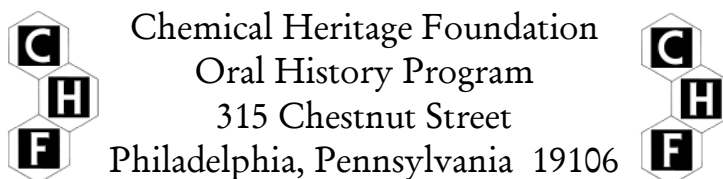
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MARCIA B. GOLDBERG

1957 Born in Boston, Massachusetts on July 29

Education

1979 B.A., Biology, Harvard University
1984 M.D., Harvard Medical School

Professional Experience

	Harvard Medical School
1984-1987	Clinical Fellow
1987-1990	Research Fellow
1999-present	Associate Professor
	Pasteur Institute, Paris, France
1991-1993	Research Fellow
	Albert Einstein College of Medicine
1993-1998	Assistant Professor, Microbiology and Immunology
1998-1999	Associate Professor, Microbiology and Immunology
1993-1999	Assistant Professor, Medicine

Honors

1983	Albert Schweitzer Fellow
1991	Institut National de la Santé et de la Recherche Médicale Fellowship
1991-1992	Fulbright Scholar
1994-1998	Pew Scholars Program in the Biomedical Sciences Grant
1995	Melini Award

Selected Publications

- Goldberg, M.B. et al., 1990. Identification of an iron-regulated virulence determinant in *Vibrio cholerae* using *TnphoA* mutagenesis. *Infection and Immunity* 58:55-60.
- Goldberg, M.B. et al., 1990. Transcriptional regulation by iron of a virulence gene of *Vibrio cholerae* and its homology to the *Escherichia coli* Fur system. *Journal of Bacteriology* 172:6863-70.
- Goldberg, M.B. et al., 1991. Positive transcriptional regulation of an iron-regulated virulence

- gene in *Vibrio cholerae*. *Proceedings of the National Academy of Sciences USA* 88:1125-29.
- Goldberg, M.B. et al., 1993. Unipolar localization and ATPase activity of *IcsA*, a *Shigella flexneri* protein involved in intracellular movement. *Journal of Bacteriology* 175:2189-96.
- Goldberg, M.B. and J.A. Theriot, 1995. *Shigella flexneri* surface protein *IcsA* is sufficient to direct actin-based motility. *Proceedings of the National Academy of Sciences USA* 92:6572-76.
- Shere, K.D. et al., 1997. Disruption of *IcsP*, the major *Shigella* protease that cleaves *IcsA*, accelerates actin-based motility. *Molecular Microbiology* 25:451-62.
- Way, S.S. et al., 1998. An essential role for gamma interferon in innate resistance to *Shigella flexneri* infection. *Infection and Immunity* 66:1342-48.
- Way, S.S. and M.B. Goldberg, 1998. Clearance of *Shigella flexneri* infection occurs through a nitric oxide-independent mechanism. *Infection and Immunity* 66:3012-16.
- Way, S.S. et al., 1999. The impact of either elevated or decreased levels of cytochrome *bd* expression on *Shigella flexneri* virulence. *Journal of Bacteriology* 181:1229-37.
- Way, S.S. et al., 1999. Adaptive immune response to *Shigella flexneri* 2a *cydC* in immunocompetent mice and mice lacking immunoglobulin A. *Infection and Immunity* 67:2001-4.
- Steinhauer, J. et al., 1999. The unipolar *Shigella* surface protein *IcsA* is directly targeted to the bacterial old pole; *IcsP* cleavage of *IcsA* occurs over the entire bacterial surface. *Molecular Microbiology* 32:367-78.
- Way, S.S. et al., 1999. Adaptive immunity to the intracellular pathogen *Shigella flexneri* serotype 2a is thymic-independent. *Infection and Immunity* 67:3970-79.

ABSTRACT

Marcia B. Goldberg was born in 1957 in Boston, Massachusetts; the second of four siblings. Goldberg grew up in a very egalitarian family environment full of enrichment and educational opportunities. Although the Goldberg family was not very religious her parents still believed strongly in preserving their Jewish traditions and culture. Goldberg credits her interest in the sciences to an outstanding public education system in Brookline, Massachusetts where she grew up; she especially lauds her high school teachers.

Goldberg attended Harvard University, where she received a B.A. in biology in 1979. At Harvard she developed an interest in physiology, an interest that she parlayed into a desire to attend medical school. She matriculated into Harvard Medical School, where she received her M.D. in 1984. During medical school, Goldberg traveled extensively, funded by an Albert Schweitzer Fellowship; her travel included a service trip to a hospital in Gabon. She also took a year off between her first and second years to explore the many aspects of medicine by working in various non-profit and volunteer positions. Goldberg pursued her residency at Massachusetts General Hospital, where she began conducting research on virulence factors of *Vibrio cholerae* alongside Dr. Stephen B. Calderwood. She then spent several years studying *Shigella flexneri* pathogenesis in Philippe J Sansonetti's Lab at the Pasteur Institute in Paris, France. Goldberg's current research is still focused on *Shigella flexneri* and its modalities of mammalian cell infection and pathogenesis.

In 1993 Goldberg was appointed assistant professor in the Department of Microbiology and Immunology at the Albert Einstein College of Medicine. She was promoted to associate professor in 1998 only to accept an associate professorship at Harvard Medical School shortly thereafter. Goldberg's current research focuses on the IcsA protein of *Shigella flexneri* and its role in actin assembly during the bacterium's infection of mammalian host cells.

Throughout her oral history Goldberg highlights the gender differences that exist throughout the sciences. Goldberg is a Fulbright Scholar and has won many awards and fellowships including an Albert Schweitzer Fellowship, a fellowship from l'Institut National de la Santé et de la Recherche Médicale, a Melini Award, and a Pew Scholars Program in the Biomedical Sciences Grant, which she discusses in the oral history.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Helene L. Cohen, Interviewer, UCLA Oral History Program. B.S., Nursing, UCLA; P.N.P., University of California, San Diego/UCLA; M.A., Theater, San Diego State University.

TIME AND SETTING OF INTERVIEW:

Place: Goldberg's office, Harvard School of Public Health.

Dates, length of sessions: November 1, 1999 (94 minutes); November 2, 1999 (93).

Total number of recorded hours: 3.1

Persons present during interview: Goldberg and Cohen.

CONDUCT OF INTERVIEW:

This interview is one in a series with Pew Scholars in the Biomedical Sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts' Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships since 1988.

To provide an overall framework for project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Cohen held a telephone preinterview conversation with Goldberg to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Goldberg's file at the Pew Scholars Program office in San Francisco, including her proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members.

For technical background, Cohen consulted J.D. Watson et al., *Molecular Biology of the Gene*. 4th ed. Menlo Park, California: Benjamin/Cummings, 1987; Bruce Alberts et al., *Molecular Biology of the Cell*. 3rd ed. New York: Garland, 1994; Horace F. Judson, *The Eighth Day of Creation*. New York: Simon and Schuster, 1979; and recent issues of *Science* and *Nature*.

The interview is organized chronologically, beginning with Goldberg's childhood in Brookline, Massachusetts, and continuing through her undergraduate work at Harvard University, her graduate studies at Harvard Medical School, and the establishment of her own laboratories at Albert Einstein College of Medicine and the Harvard School of Public Health. Major topics discussed include her research on *Shigella flexneri*, balancing career and family life, her involvement in various health care organizations, and the management of her laboratory.

ORIGINAL EDITING:

Ji Young Kwon, editorial assistant, edited the interview. She checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Goldberg reviewed the transcript. She verified proper names and made minor corrections and additions.

William Van Benschoten, editor, prepared the table of contents. Kwon assembled the biographical summary, interview history, and index.

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