CHEMICAL HERITAGE FOUNDATION

JEAN T. GREENBERG

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

William Van Benschoten

at

The University of Chicago
Chicago, Illinois

on

17 and 18 June 2002

ACKNOWLEDGEMENT

This oral history is part of a series supported by a grant from the Pew Charitable Trusts based on the Pew Scholars Program in the Biomedical Sciences. This collection is an important resource for the history of biomedicine, recording the life and careers of young, distinguished biomedical scientists and of Pew Biomedical Scholar Advisory Committee members.

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REFORMATTING:

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UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. R081902G

This Interview Agreement is made and entered into this 19 day of August, 2002 by and between THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a California corporation, on behalf of the Oral History Program at the UCLA campus, hereinafter called "University," and JEAN T. GREENBERG, having an address at Department of Molecular Genetics and Cell Biology, University of Chicago, 1103 East 57th Street - EBC, Chicago, Illinois 60637, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about June 17, 2002, and tentatively entitled "Interview with Jean T. Greenberg. 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."

In consideration of the mutual covenants, conditions, and terms set forth below, the parties hereto hereby agree as follows:

1. Interviewee irrevocably assigns to University all her copyright, title and interest in and to the Work. This assignment applies to University, its successors, and assigns, for and during the existence of the copyright and all renewals and extensions thereof.

2. By virtue of this assignment, University will have the right to use the Work for any research, educational, or other purpose, including electronic reproduction, that University may deem appropriate.

3. Interviewee acknowledges that she will receive no remuneration or compensation for her participation in the interviews or for the rights assigned hereunder.

4. Interviewee will receive from University, free of charge, one bound copy of the typewritten manuscript of the interviews.

5. To insure against substantive error or misquotation, Interviewee will have the right to review the manuscript before it is put into final form. University therefore will send Interviewee a copy of the edited transcript for review and comment. Interviewee will return transcript and comments to University within 30 days of receipt of the transcript. In the event that Interviewee does not respond within 30 days, University will assume that Interviewee has given full approval of the transcript.

6. All notices and other official correspondence concerning this Agreement will be sent to the following:

If to University:

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University of California, Los Angeles
Box 951575
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Attention: Janice L. Reiff

If to Interviewee:

Jean T. Greenberg
Molecular Genetics and Cell Biology
University of Chicago
1103 East 57th Street - EBC
Chicago, IL 60637

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

INTERVIEWEE	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
X Jean Greenberg (Signature)	Janice L. Reiff (Signature)
Jean T. Greenberg (Typed Name)	Janice L. Reiff (Typed Name)
Molecular Genetics and Cell Biology (Address)	Interim Director, Oral History Program (Title)
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Chemical Heritage Foundation
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JEAN T. GREENBERG

1961 Born in New York City, New York, on 10 July

Education

1983 B.A., Biochemistry, Barnard College, Columbia University
1989 Ph.D., Biophysics, Harvard University

Professional Experience

Massachusetts General Hospital
1989-1994 Postdoctoral Fellow, Department of Molecular Biology

Harvard University
1989-1994 Postdoctoral Fellow, Department of Genetics

University of Colorado, Boulder, Colorado
1995-1997 Assistant Professor, Department of Molecular, Cellular and Developmental Biology

University of Chicago
1997-2003 Assistant Professor, Department of Molecular Genetics and Cell Biology and Committee on Genetics
2002-2003 Assistant Professor and Committee on Microbiology
2003-present Associate Professor, Department of Molecular Genetics and Cell Biology, Committee on Genetics, and Committee on Microbiology

Honors

1983 Magna Cum Laude, Barnard College
1989-1992 NSF Postdoctoral Fellow in Plant Biology
1996-1999 American Cancer Society Research Fellow
1996-2001 Pew Biomedical Scholar

Selected Publications

Yao, N. and Greenberg, J.T. (2005) Arabidopsis Accelerated Cell Death2 modulates programmed cell death. Plant Cell 30 Dec (epub before print).

Gabriel, D.W., Allen, C., Schell, M., Denny, T., Greenberg, J.T., Duan, Y.P., Flores-Cruz, Z., Huang, Q., Clifford, J.M., Presting, G., Gonzalez, E.T., Reddy, J., Elphinstone, J., Swanson, J., Yao, J., Malholand, V., Liu, L., Farmerie, W., Patnaikuni, M., Balogh, B., Norman, D., Alvarez, A., Castillo, J.A., Jones, J., Saddler, G., Walunas, T., Zhukov, A., Mikhailova, N. (2005). Identification of open reading frames unique to a select agent: Ralstonia solanacaerum race 3 biovar 2. MPMI 19(1):69-79

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Vanacker, H., Lu, H., Rate, D. N. and Greenberg, J. T. (2001) A Role for Salicylic Acid and NPR1 in Regulating Cell Growth in Arabidopsis. Plant J. 28:2209-2 16.

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Mach, J., Castillo, A., Hoogstraten, R., Greenberg, J. T. (2001) The Arabidopsis accelerated cell death gene ACD2 encodes red chlorophyll catabolite reductase and suppresses the spread of disease symptoms. Proc. Natl. Acad. Sci. (USA) 98:771-776.

Guttman, D.S. and Greenberg, J. T. (2001) Functional Analysis of Type III Effectors AvrRpt2

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Greenberg, J. T., and Ausubel, F. M. (1993). *A. thaliana* mutants compromised for the control of cellular damage during pathogenesis and aging. The Plant Journal 4:327-341.

Chou, J. H., Greenberg, J. T., and Demple, B. (1993) Post-transcriptional repression of Escherichia coli OmpF protein in response to redox stress: positive control of the micF antisense RNA by the *soxRS* locus. J. Bacteriol. 175:1026-1031.

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Greenberg, J. T, and Demple, B. (1989) A global response induced in *Escherichia coli* by redox-cycling agents overlaps with that induced by $_{H2O2.}$ J. Bacteriol. 171:933-3939.

Greenberg, J. T., and Demple, B. (1988) Overproduction of peroxide-scavenging enzymes in *Escherichia coli* suppresses spontaneous mutagenesis and sensitivity to redox-cycling agents in *oxyR*- mutants. EMBO J. 7:611-2617.

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ABSTRACT

Jean T. Greenberg was raised, principally, in New York City with her mother, though she spent weekends in Connecticut with her father; Greenberg had one older brother. Her father was a physician with "the heart" of a scientist; her mother was interested in the arts and worked as a multi-faceted assistant to an author. Greenberg attended private schools in New York City throughout her childhood, but found them unable to cope with students who had interests that went beyond the curriculum or those who were more advanced than their classmates. She maintained strong friendships with peers interested in the humanities and the arts, but found herself much more interested in mathematics and the sciences. Her time outside of school was occupied with enjoying the culture and opportunities of New York City, working, and the weekend commutes to Connecticut.

Greenberg applied early to, and was accepted at, Barnard College, where she continued her New York City life while earning her undergraduate degree. Working in a biophysics lab piqued her interest and she decided to apply to biophysics programs for graduate school, ultimately deciding to attend Harvard University. At Harvard, she chose to work in Bruce Demple's laboratory defining the genes involved in the control of the adaptive responses to oxidative stress in bacteria, and appreciating the freedom and personal attention this decision provided, as well as the strong support group of other students and professors in the Boston area. From there, she and her future husband, Adam Driks, decided to remain in Boston and Greenberg began a postdoctoral fellowship in Frederick M. Ausubel's laboratory at Harvard, studying disease resistance and symptoms in the plant *Arabidopsis*. After her postdoctoral work, she accepted a position at the University of Colorado, Boulder, mapping and characterizing the genes involved in disease resistance, and then at the University at Chicago, working on adaptive resistance to disease, on a pathogen's ability to elicit disease, and on the biology of disease symptoms.

At the end of the interview, Greenberg talks about the process of writing journal articles; her lab management style and her professional responsibilities; creativity in science; setting the national science agenda; and the role of the scientist to inform the public. She finishes with a discussion of the privatization of research; and the role of the Pew Scholars Program in the Biomedical Sciences in her research.

UCLA INTERVIEW HISTORY

INTERVIEWER:

William Van Benschoten, Interviewer, UCLA Oral History Program. B.A., History, University of California, Riverside; M.A., History, University of California, Riverside; C. Phil., History, UCLA

TIME AND SETTING OF INTERVIEW:

Place: Greenberg's office, University of Chicago.

Dates, length of sessions: June 17, 2002 and June 18, 2002

Total number of recorded hours: 4.0

Persons present during interview: Greenberg and Van Benschoten .

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's 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, Van Benschoten held a telephone preinterview conversation with Greenberg to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. He also reviewed documentation in Greenberg's file at the Pew Scholars Program office in San Francisco, including Greenberg's proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members.

ORIGINAL EDITING:

Carol Squires 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.

Greenberg did not review the transcript. Consequently some names remain unverified.

Carol Squires prepared the table of contents and TechniType Transcripts compiled the guide to proper names.

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