# CHEMICAL HERITAGE FOUNDATION

# JANE E. KOEHLER

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview Conducted by

Helene L. Cohen

at

Salk Institute for Biological Studies San Diego, California

on

2-4 March 2001

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

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KORHLER, having an address at Department of Medicine, Division of Infectious
Diseases, University of California, San Francisco, Box 0654, Room C-443,
521 Parnassus Avenue, San Francisco, California 94143-0654, hereinafter called

Interviewee agreem to participate in a series of University-conducted tape-recorded interviews, commencing on or about March 2, 2001, and tentatively entitled "Interview with Jane E. Koehler". 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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University and Interviewee have executed this Agreement on the date first written above.

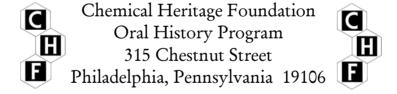
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# JANE E. KOEHLER

1953	Born in Lincoln, Nebraska, in June			
<u>Education</u>				
1975	B.A., Vassar College			
1978	M.A., Microbiology, University of California, Berkeley			
1984	M.D., George Washington University School of Medicine and Health Sciences			
Professional Experience				
	University of California San Francisco, San Francisco, California			
1984-1987	Intern and Resident, Internal Medicine			
1987-1988	Postdoctoral Clinical Fellow, Division of Infectious Diseases			
1988-1992	Research Fellow, Divisions of Infectious Diseases and Clinical Pharmacology/Experimental Therapeutics			
1988-1992	Clinical Instructor of Medicine, Division of Infectious Diseases			
1991-1992	Assistant Research Microbiologist, Department of Laboratory Medicine			
1992-1994	Assistant Adjunct Professor of Medicine, Division of Infectious Diseases			
1994-1998	Assistant Professor of Medicine in Residence, Division of Infectious Diseases			
1998-present	Associate Professor of Medicine in Residence, Division of Infectious Diseases			
<u>Honors</u>				
1984	American Medical Women's Association Scholarship Achievement Citation			
1984	ICAAC Young Investigator Award (American Society for Microbiology)			
1994-1995	Pierre Richard Dick-Virbac Foundation First International Award			
1994-1998	Pew Scholars Program in the Biomedical Sciences Grant			
1997	American Society for Clinical Investigation			

#### **Selected Publications**

- Koehler, J.E. et al., 1988. Cutaneous vascular lesions and disseminated cat-scratch disease in patients with the acquired immunodeficiency syndrome (AIDS) and AIDS-related complex. *Annals of Internal Medicine* 109:449-45.
- Koehler, J.E. et al., 1990. Chlamydia trachomatis RNA polymerase major sigma subunit: Sequence and structural comparison of conserved and unique regions with Escherichia coli σ70 and Bacillus subtilis σ43. *Journal of Biological Chemistry* 265:13206-214.
- Koehler, J.E. et al., 1992. Isolation of Rochalimaea species from cutaneous and osseous lesions of bacillary angiomatosis. *New England Journal of Medicine* 327: 1625-3 1.
- Koehler, J.E. et al., 1992. Overexpression and surface localization of the Chlamydia trachomatis major outer membrane protein in Escherichia coli. *Molecular Microbiology* 6:1087-94.
- Tappero, J.W. et al., 1993. The epidemiology of bacillary angiomatosis and bacillary peliosis. *Journal of the American Medical Association* 269:770-75.
- Koehler, J.E. et al., 1994. Rochalimaea henselae infection: A new zoonosis with the domestic cat as reservoir. *Journal of the American Medical Association* 271:531-35.
- Regnery, R.L.et al., 1995. "Infections associated with Bartonella species in persons infected with human immundeficiency virus," USPHS/IDSA Guidelines for the Prevention of Opportunistic Infenctions in Persons Infected with Human Immunodeficiency Virus. *Clinical Infectious Diseases* 21 (Suppl 1): S94-S98.
- Mohle-Boetani, J.C. et al., 1996. Bacillary angiomatosis and bacillary peliosis in patients infected with human immunodeficiency virus: Clinical characteristics in a case-control study. *Clinical Infectious Diseases* 22:794-800.
- Chomel, B.B. et al., 1996. Experimental transmission of Bartonella henselae by the cat flea. *Journal of Clinical Microbiology* 34:1952-56.
- Koehler, J.E. et al., Molecular epidemiology of Bartonella infections in patients with bacillary angiomatosis-peliosis. *New England Journal of Medicine* 337:1876-83.
- Koehler, J.E., 2000. "Bartonella Species," in Persistent Bacterial Infections (Nataro, J.P., M.J. Blaser, and S. Cunningham-Rundles, Eds). *American Society for Microbiology Press*, Washington, D.C., pp. 339-53.
- Park, S.Y. et al., 2001. Identification, characterization, and functional analysis of a gene encoding the ferric uptake regulation protein in Bartonella species. Journal of Bacteriology 183:5751-55.

#### **ABSTRACT**

Jane E. Koehler was born in Lincoln, Nebraska in 1953, the third of four sisters. Her father was the son of German-American farmers from Missouri; he was a World War II veteran who was the first in his family to attend college and would later go on to obtain a master's degree and a Ph.D. in soil chemistry. Koehler's mother was of Danish parentage and also grew up in Missouri. She earned her master's degree in food science. Both of Koehler's parents taught at Washington State University during the majority of her childhood. From a young age, she was very interested in medicine, and she credits her sisters with being a considerable influence on her personal ambition and success.

Koehler graduated from Vassar College in 1975. She struggled with Hashimoto's thyroiditis during this period, and although she found it hard to adjust to student life, Koehler applied to graduate schools and matriculated into a Ph.D. Program at the University of California, Berkeley. She then decided to earn a master's degree in microbiology instead of a Ph.D. in order to pursue a medical education. Koehler worked as a research associate while she took her MCAT and applied to medical schools. She was eventually accepted into the George Washington University School of Medicine and Health Sciences, where she received an M.D. in 1984, and met her husband, Stephen X. Nahm. The couple moved to California so that Koehler could begin internship rotations at the University of California, San Francisco. It was there that she became much more interested in the study of infectious diseases. In 1984 Koehler was awarded an infectious disease fellowship at the University of California, San Francisco, where she researched the causative agents of bacillary angiomatosis in Dr. Richard S. Stephens' lab and later in Nina Agabian's lab.

In 1988 Koehler began working at the University of California, San Francisco, as a Clinical Instructor of Medicine in the Infectious Diseases Department. She rose through the ranks from Research Microbiologist to Assistant Professor and was eventually appointed Associate Professor of Medicine in Residence in the Infectious Diseases Department. Her current research focuses on tracing the complex life cycle of *Bartonella* and its role in the frequent infection of immunocompromised patients.

Throughout her oral history Koehler points out the many obstacles that women face when undertaking a professional career, and she stresses the importance of positive female mentors. She has won several awards including the American Medical Women's Association Scholarship Achievement Citation, the ICAAC Young Investigator Award, the Pierre Richard Dick-Virbac Fondation First International Award and a Pew Scholars Program in the Biomedical Sciences Grant.

#### **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: Koehler's office, University of California, San Francisco.

**Dates, length of sessions:** March 2, 2001 (117 minutes); March 3, 2001 (138); March 4, 2001 (121).

**Total number of recorded hours: 6.3** 

**Persons present during interview:** Koehler 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'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, Cohen held a telephone preinterview conversation with Koehler 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 Koehler'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 Koehler's childhood in Pullman, Washington, and continuing through her undergraduate work at Vassar College, her graduate work at University of California, Berkeley, and her medical training at George Washington University School of Medicine and Health Sciences. Major topics discussed include her early interest in medicine and science, her decision to specialize in infectious diseases, her work on *Bartonella*, and her current research on bacterial pathogenesis.

#### **ORIGINAL EDITING:**

La'Tonya Miles, 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.

Koehler reviewed the transcript. She verified proper names and made a number of corrections and additions.

William Van Benschoten, senior writer, prepared the table of contents. Deborah Kolosova, editorial assistant, assembled the biographical summary and interview history. Romi Keerbs, editorial assistant, compiled the index.

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Center for AIDS Prevention Studies