CHEMICAL HERITAGE FOUNDATION

# ROGER E. KARESS

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Andrea R. Maestrejuan
at

Centre de Génétique Moléculaire
Gif-sur-Yvette, France

on

23, 24, 25, and 26 April 1996

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

**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:

Kim Phan, Program Intern, Oral History, Chemical Heritage Foundation. B.A. expected 2011, Anthropology, Cornell University.

David J. Caruso, Director, Center for Oral History, Chemical Heritage Foundation. B.A., History of Science, Medicine, and Technology, Johns Hopkins University; PhD, Science and Technology Studies, Cornell University.

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. C960508

This Interview Agreement is made and entered into this 19th day of July, 1996 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 ROGER E. KARESS having an address at CNRS-Centre de Genetique Moleculaire, Ave de la Terrasse 91198, Gif-sur-Yvette, France, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about April 23, 1996, and tentatively entitled "Interview with Roger E. Karess". 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 his 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 that University may deem appropriate.

3. Interviewee acknowledges that he will receive no remuneration or compensation for his 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: Office of Research Administration
University of California, Los Angeles
P.O. Box 951406
Los Angeles, California 90095-1406

Attention: Ms. Carli V. Rogers
Copyright Officer

If to Interviewee: Roger E. Karess
CNRS-Centre de Genetique Moleculaire
Ave de la Terrasse ~~91198~~ 91198
Gif-sur-Yvette FRANCE

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

INTERVIEWEE

Roger E Karess
(Signature)

Roger E. Karess
(Typed Name)

CNRS-Centre de Genetique Moleculaire
(Address)

Ave de la Terrasse 91198

Gif-sur-Yvette FRANCE

Date 23 April 1996

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Carli V Rogers
(Signature)

Carli V. Rogers
(Typed Name)

Copyright Officer
(Title)

Date 7-19-96

Chemical Heritage Foundation
Center for Oral History
315 Chestnut Street
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**ROGER E. KARESS**

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| 1955 | Born in New York City, New York, on 28 March |

## Education

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| 1976 | BS, Biochemistry, Yale University |
| 1980 | PhD, Biochemistry, Rockefeller University |

## Professional Experience

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| | Carnegie Institution of Washington, Department of Embryology |
| 1980-1983 | Postdoctoral Fellow |
| | Imperial College of Science and Technology, University of London |
| 1983-1986 | Research Fellow, Department of Biochemistry |
| | New York University School of Medicine, Department of Biochemistry, |
| 1986-1992 | Assistant Professor |
| | Centre de Génétique Moléculaire, Centre National de la Recherche |
| 1992-present | Scientifique, Directeur de recherche |

## Selected Publications


Karess, R. et al., 1979. Cellular information in the genome of recovered avian sarcoma virus directs the synthesis of transforming protein. *Proceedings of the National Academy of Sciences USA* 76:3154-58.

Rettenmier, C. et al., 1979. Tryptic peptide analysis of avian oncovirus *gag* and *pol* gene products. *Journal of Virology* 32:102-13.

Karess, R. and H. Hanafusa, 1981. Viral and cellular *src* genes contribute to the structure of recovered avian sarcoma virus transforming protein. *Cell* 24:155-64.

Poirier, F. et al., 1982. Role of $p60^{src}$ kinase activity in the induction of neuroretinal cell proliferation by Rous sarcoma virus. *Journal of Virology* 42:780-89.

Karess, R. and G. Rubin, 1982. A small tandem duplication is responsible for the unstable *white-ivory* mutation in *Drosophila. Cell* 30:63-69.

Karess, R.E. and D.M. Glover, 1984. Analysis of P transposable element functions in *DrosophilaCell* 38:135-46.

Karess, R. and D.M. Glover, 1989. *Rough-deal:* A gene required for proper mitotic segregation of chromosomes in *Drosophila. Journal of Cell Biology*109:2951-61.

Medina-Acosta, E. et al., 1989. The promastigote surface protease (gp63) of *Leishmania* is expressed but differentially processed and localized in the amastigote stage. *Molecular and Biochemical Parasitology* 37:263-74.

Karess, R. et al., 1991. The regulatory light chain of nonmuscle myosin is encoded by *spaghetti-squash,* a gene required for cytokinesis in *Drosophila. Cell* 65:1177-89.

Llamazares, S. et al., 1991. *Polo* encodes a protein kinase homolog required for mitosis in *Drosophila. Genes and Development* 5:2153-65.

Medina-Acosta, E. et al., 1993. Structurally distinct genes for the surface protease *Leishmania mexicana* are developmentally regulated. *Molecular and BiochemicalParasitology* 57:31-45.

Gomes, R. et al., 1993. Abnormal anaphase resolution (aar): A locus required for progression through mitosis. *Journal of Cell Science* 104:583-93.

Wheatley, S. et al., 1995. *Drosophila* nonmuscle myosin II is required for rapid cytoplasmic transport during oogenesis and for axial nuclear migration in early embryos. *Development* 121:1937-46.

Jordan, P. and R. Karess. Site-directed mutagenesis of *Drosophila* nonmuscle myosin light chain suggests a requirement for myosin phosphorylation during oogenesis. (Submitted)

## ABSTRACT

**Roger E. Karess** and his two older sisters grew up in Great Neck, New York. Their grandparents were Jews from Eastern Europe, and their neighborhood consisted of other family members and people with similar backgrounds. Karess's father had a law degree but did not practice; he worked in a family business for many years and then was in insurance. His mother was a homemaker. Both parents were adamant that all three children would go to college. The older sister is a chemist in industry; the younger, after a dancing career, became a social worker. Karess discusses his upbringing as a Reform Jew; Europeans' attitudes toward Americans; racism and anti-Semitism in Europe; Karess' Jewish identity; and Roman Catholic influences on contemporary France.

Karess cannot remember not being interested in science. He enjoyed the experiments in elementary school and reading the life stories of great scientists in Paul de Kruif's *Microbe Hunters*. His fourth-grade teacher noted his "passion" for science. In high school he took advanced science courses, and he attended a summer program for high school students at Jackson Laboratory; there he studied the effects of heavy metals on mouse embryo development and was introduced to reading scientific articles. He also attended a high-school science program at Columbia University.

He was accepted at Yale University where he worked in David Ward's lab studying paroviruses. He talks about the difference between liking science and doing science; about his regret at not having taken more lab classes at Yale and about having taken courses in medieval Latin and art history. He developed an interest in tumor viruses and wrote a class paper on host virus restriction. He talks more about working in the Ward lab; about having worked on reverse transcriptase in the Ted Reid lab; and about letters of recommendation he received from Yale professors.

He entered graduate school at Rockefeller University; he began early in Vincent Allfrey's lab so as to gain more lab experience. He then transferred to the Hidesaburo Hanafusa lab to study retroviruses. Here he discusses changes in his confidence as a scientist over time; his evaluation of himself as an undergraduate researcher; undergraduates in his own lab; his performance on his senior exam; his reasons for selecting Rockefeller for graduate school; Rockefeller's unstructured program; and playing softball at Rockefeller with Mark Rieman and jogging with Michael Greenberg. He goes on to describe Hanafusa as a teacher and a mentor and Hanafusa's research on tumor viruses. Karess himself sought to identify the RNA binding site for retroviruses but was thwarted by technical difficulties. Karess then talks about how William Hayward distinguishes between transformation-competent and transformation-defective virus cells; how Peter Duesberg's radiolabeling of viral RNA helps demonstrate the existence of an oncogene; Hanafusa's research on proto-oncogenes; how Karess seeks to isolate the *src* protein; and Raymond Erikson's discovery that *src* is a kinase. Karess was challenged in his attempt to identify the first known kinase and unable at the time to discover the *fps* oncogene. This leads to an explanation of the factors involved in scientific breakthroughs and the need to interpret data with fresh, objective eyes. He evaluates his self-confidence at the end of his doctorate.

Here Karess gives his opinion on the constructive and destructive effects of competition in science and the need to take risks in research. He goes on to compare the structures of scientific research in France and the United States; the advantages and disadvantages of doing

research in France; and the relative prestige of publishing in American and European journals.

Karess accepted a position as a principal investigator at the Centre de Génétique Moléculaire (CGM) near Paris. When he published an article in *Cell* he encountered the politics of scientific publishing. He goes on to describe funding in France; the Centre National de la Recherche Scientifique (CNRS) and setting up a lab at CNRS; and his own funding. More discussion of the funding of scientific research in France leads to a discussion of Karess's funding in the United States and his opinion about the need for reforms in the way science is done in both France and the United States.

Karess's research interests shifted from oncogenes to *Drosophila* genetics, and he developed an interest in transposable elements. He accepted a postdoc position in the Gerald Rubin lab at the Carnegie Institution of Washington, where he studied unstable alleles in *Drosophila*. Rubin's discovery of P elements revolutionized *Drosophila* genetics. Karess analyzed P transposable element function. He then accepted a second postdoc position in David Glover's lab at Imperial College of Science and Technology, University of London. He talks about trends in assigning names to *Drosophila* genes and the names Karess and others created.

Karess applied for his first academic position and accepted an offer from New York University. Here he discusses the people in his own lab. He took up studying *Leishmania*. Karess moved his lab to the CGM in Paris, where he has been studying the *rough-deal* gene. Karess concludes with an assessment of his scientific research.

## UCLA INTERVIEW HISTORY

INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program. B.A.., History, University of CaliforniaIrvine, 1988; B.S., Biological Sciences, University of California, Irvine, 1988; C.Phil., History, University of California, Riverside.

TIME AND SETTING OF INTERVIEW:

**Place:** Karess's office, Centre de Génétique Moléculaire, Gif-sur-Yvette, France.

**Dates, length of sessions:** April 23, 1996 (150 minutes); April 24, 1996 (157) ; April 25, 1996 (170) ; April 26, 1996 (118).

**Total number of recorded hours:** 9.9

**Persons present during interview:** Karess and Maestrejuan.

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

For general background on the recent history of the biological sciences, Maestrejuan consulted J.D. Watson et al., *Molecular Biology of the Gene.* 4th ed. Menlo Park, CA: Benjamin/Cummings, 1987, and Bruce Alberts et al., *Molecular Biology of the Cell.* 3rd ed. New York: Garland, 1994.

The interview is organized chronologically, beginning with Karess's childhood in New York and continuing through his education at Yale University and Rockefeller University, his postdocs at Carnegie Institution of Washington and the Imperial College of Science and Technology, and his positions at New York University and the Centre de Génétique Moléculaire. Major topics discussed include the molecular biology of oncogenes, *Drosophila* genetics, and the infrastructures of scientific research in France and the United States.

ORIGINAL EDITING:

Gregory M. Beyrer, editorial assistant, edited the interview. He 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.

Karess reviewed the transcript. He verified proper names and made minor corrections and additions.

Steven J. Novak, senior editor, prepared the table of contents and interview history.

Beyrer assembled the biographical summary and index.

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