CHEMICAL HERITAGE FOUNDATION

PATRICK J. DOLPH

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

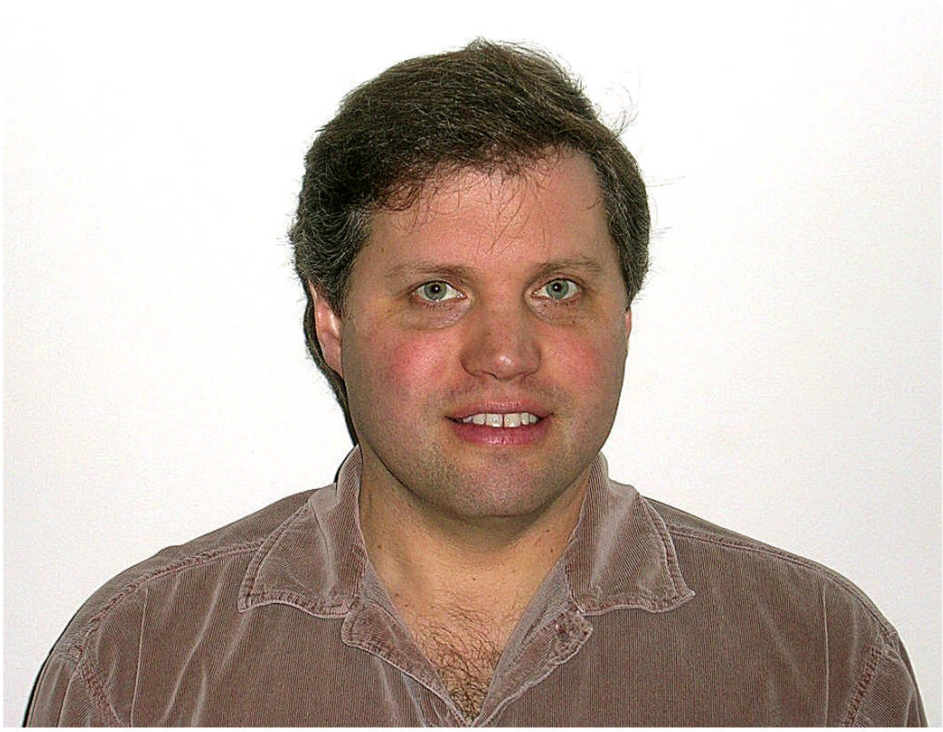
Andrea R. Maestrejuan

at

Dartmouth College
Hanover, New Hampshire

on

9-11 October 2002



Patrick J. Dolph

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 the Pew Scholars Program in the Biomedical Sciences Advisory Committee members.

From the original collection at the Center for Oral History Research, UCLA Library, UCLA.

The following oral history, originally processed at the UCLA Center for Oral History Research, has been reformatted by the Chemical Heritage Foundation. The process involved reformatting the front matter, adding a new abstract, replacing the table of contents, and replacing the index. The paragraph spacing and font of the body of the transcript were altered to conform to the standards of the Oral History Program at the Chemical Heritage Foundation. The text of the oral history remains unaltered; any inadvertent spelling or factual errors in the original manuscript have not been modified. The reformatted version and digital copies of the interview recordings are housed at the Othmer Library, Chemical Heritage Foundation. The original version and research materials remain at the Darling Library, University of California, Los Angeles and at the Bancroft Library, University of California, Berkeley.

REFORMATTING:

Marnie Berkowitz, Consultant to the Chemical Heritage Foundation. B.A., Classical Languages and Literatures, University of Minnesota; Ford Foundation Fellowship, Classical Languages and Literatures, University of Chicago.

David J. Caruso, Program Manager, 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. R110502E

This Interview Agreement is made and entered into this 5 day _____ of November, 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 PATRICK DOLPH, having an address at Department of Biology, Dartmouth College, 6044 Gilman Laboratory, Hanover, New Hampshire 03755, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about October 9, 2002, and tentatively entitled "Interview with Patrick Dolph. 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, including electronic reproduction, 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:

Oral History Program
University of California, Los Angeles
Box 951575
Los Angeles, California 90095-1575

Attention: Janice L. Reiff

If to Interviewee:

Patrick Dolph
Department of Biology
Dartmouth College
6044 Gilman Laboratory
Hanover, NH 03755

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

INTERVIEWEE	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
(Signature)	Janice L. Reiff (Signature)
Patrick Dolph (Typed Name)	Janice L. Reiff (Typed Name)
Department of Biology (Address)	Interim Director, Oral History Program (Title)
Dartmouth College	
Hanover, NH 03755	
Date	Date 5 NN 2002

Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

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PATRICK J. DOLPH

1961 Born in Portland Oregon on 6 July

Education

1983 B.S., Biology, Oregon State University
1985 M.S., Genetics, Ohio State University
1989 Ph.D., Medical Sciences, New York University Medical Center

Professional Experience

Ohio State University
1984-1985 Graduate Research Assistant with Dr. David Coplin, Department of Plant Pathology

New York University Medical Center
1985-1989 Graduate Research Associate with Dr. Robert Schneider, Department of Biochemistry

University of California, San Diego
1990-1995 Postdoctoral Fellow with Dr. Charles Zuker, Department of Biology

Dartmouth College
1995-2001 Assistant Professor, Department of Biology Hanover

Honors

1997-2001 Pew Scholars Award
1999 Whitney H. Eastman Award for Distinguished Faculty
2000 Junior Faculty Fellowship
2001 Sigma Xi: 2001

Selected Publications

Deleault, N.R., Dolph, P.J., Nishina, N.A., Cook, M., Harris, D.A., and Supattapone, S. Post-translational suppression of pathogenic prion protein expression in *Drosophila* neurons. (in prep)

Arruda, S.E., Dolph, P.J. A gain-of-function allele of *pawn* that dramatically disrupts phototransduction in *Drosophila melanogaster* (in prep)

Orem, N.R; Dolph, P.J. Subcellular localization of rhodopsin in endocytosis-induced retinal degeneration. (submitted)

Dolph, P.J. (2002) Arrestin: roles in the life and death of retinal neurons. *The Neuroscientist*. 8(4): 347-355.

Orem, N.R; Dolph, P.J. (2002)Loss of the phospholipase C gene product induces massive endocytosis of rhodopsin and arrestin in *Drosophila* photoreceptors. *Vision Research* (42): 497-505

Alloway, P.A., Howard, L., Dolph, P.J. (2000) The formation of stable rhodopsinarrestin complexes induces apoptosis and photoreceptor cell degeneration. *Neuron* 28: 129-138.

Alloway, P.A., Dolph, P.J. (1999) A role for the light-dependent phosphorylation of visual arrestin. *Proc. Nat. Acad. Sci*. 96: 6072-6077

Dolph, P. J., Man, Son, Hing, H., Yarfitz, S., Colley, N. J., Deer, J. R., Spencer, M., Hurley, J. B., and Zuker, C. S. (1994). An eye-specific G beta subunit essential for termination of the phototransduction cascade. *Nature* 370: 59-61.

Dolph, P.J., Ranganathan, R., Colley, N.J., Hardy, R.W., Socolich, M., Zuker, C.S. (1993). Arrestin function in inactivation of G protein-coupled receptor rhodopsin *in vivo. Science* 260: 1910-1916

LeVine, H., Smith, D.P., Whitney, M., Malicki, D.M., Dolph, P.J., Smith, G.F., Burkhart, W., Zuker, C.S. (1990). Isolation of a novel visual-system-specific arrestin: an *in vivo* substrate for light-dependent phosphorylation. Mech. of Dev. 33: 19-25.

Dolph, P.J., J.T. Huang, and R.J. Schneider. (1990). Translation by the adenovirus tripartite leader: elements which determine independence from cap-binding protein complex. *J. Virology* 64: 2669-2677.

Zhang, Y., P.J. Dolph, and R.J. Schneider. (1989). Secondary structure analysis of the adenovirus tripartite leader. *J. Biol. Chem*. 264: 10679-10684.

Dolph, P.J., V. Racaniello, A. Villamarin, F. Palladino, and R.J. Schneider. (1988). The adenovirus tripartite leader eliminates the requirement for cap-binding protein complex during translation initiation. *J. Virology* 62: 2059-2066.

ABSTRACT

Patrick Dolph was born and grew up in Portland, Oregon, the middle child of three. His father was a dye maker in a box factory, and his mother was an administrative nurse, though she did not work while the children were young. Dolph can remember that from about the age of five he has wanted to be a scientist, though the particular area of his interest has changed. He began wanting to be an entomologist; he collected bugs and mounted them with the aid of his parents. In elementary school he had a fourth-grade teacher who inspired Dolph's interest in biology. In junior high school he became fascinated with the tide pool creatures he discovered while on family vacations in the San Juan Islands off Seattle, Washington, and decided to become a marine biologist. His high school had few science classes, but he took what he could, including the one biology class. The teacher of that class emphasized Mendel's genetics experiments, stirring up Dolph's enthusiasm, the enthusiasm that determined his future.

Dolph matriculated at Oregon State University, immediately declaring his major to be biology. He began his genetics classes as a sophomore, greatly influenced by Paul Roberts, a *Drosophila* geneticist who taught genetics of organisms. In his junior year, Dolph applied to work in Roberts' lab, but was rejected, so he began work in Dallice Mills' plant pathology lab, where he stayed for perhaps a year and a half. Though he had been on his high school's swim team, Dolph was not good enough to continue in college, but he established a number of good friendships.

After college Dolph worked in Michael Litt's lab at the Oregon Health Science Center. There he gained confidence he felt he lacked during his college career. He did his Master's work on the genetics of *Erwinia stewartii* at Ohio State University, working in David Coplin's lab. From there Dolph moved to New York University's Ph.D. program, where he studied adenovirus gene translation in Robert Schneider's lab. Dolph moved then to the University of California at San Diego, to Charles Zuker's lab, where he took up a postdoc, working on arrestin and the regulation of signal transduction in the *Drosophila melanogaster* visual system.

When he finished his postdoc, Dolph accepted an assistant professorship at Dartmouth. He continues his current research on cell death in photoreceptor cells; he plans to study the biochemistry and genetics of apoptosis in the retinal pathway. His days include publishing; teaching; seeking funding; and attempting to balance his work life with life in rural New Hampshire with his wife and two children.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program; B.S., Biological Sciences, University of California, Irvine, 1986; M.A., History, University of California, Riverside, 1991; C.Phil., History, University of California, Los Angeles, 2000.

TIME AND SETTING OF INTERVIEW:

Place: Dolph's office at Dartmouth College

Total number of recorded hours: 5.07

Persons present during interview: Dolph 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' 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 Dolph 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 Dolph'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.

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.

Dolph reviewed the transcript. He verified proper names and made a number of corrections and additions.

Carol Squires prepared the table of contents and index. William Van Benschoten, senior writer, assembled the interview history.

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