

CHEMICAL HERITAGE FOUNDATION

YUE XIONG

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

William Van Benschoten

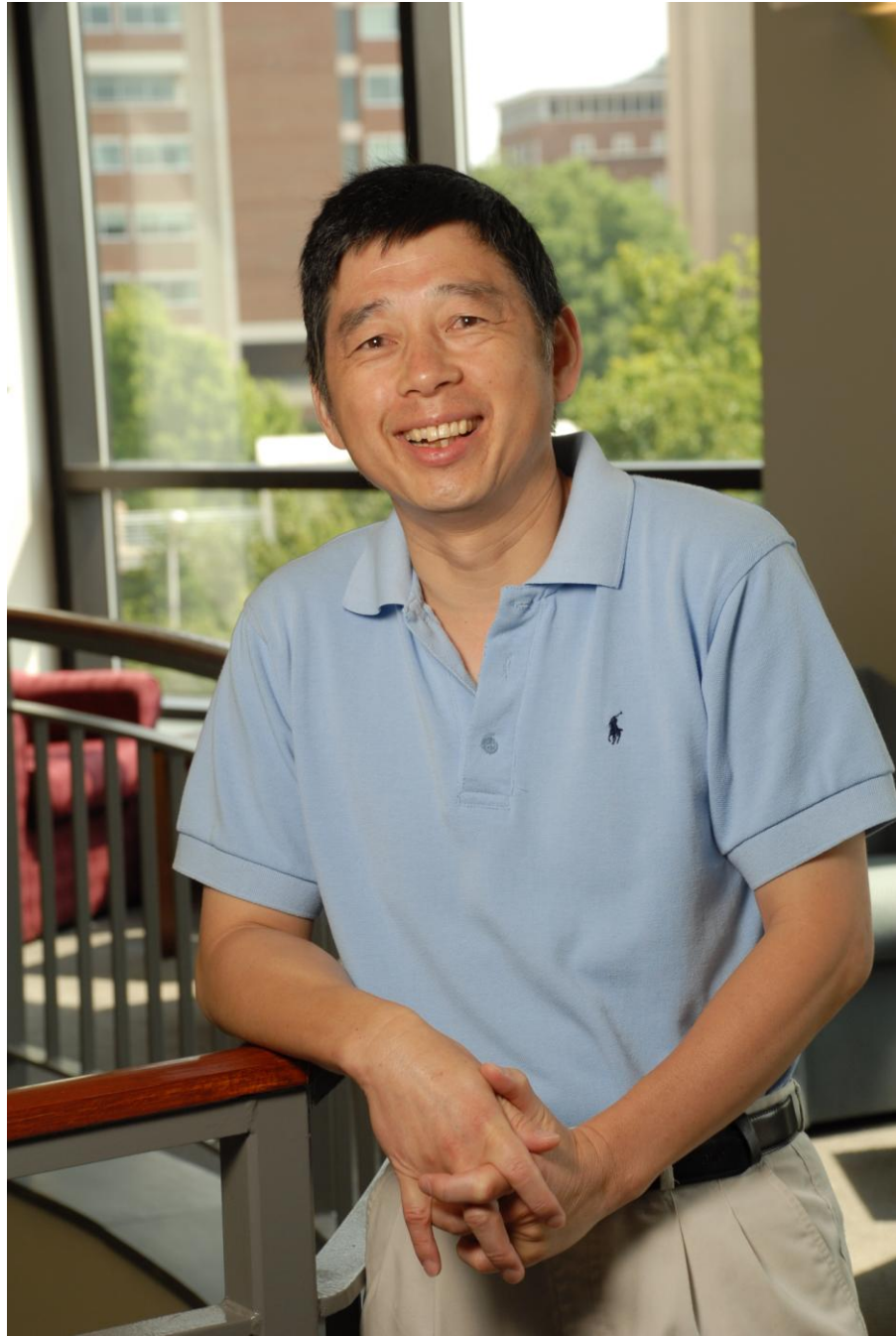
at

University of North Carolina
Chapel Hill, North Carolina

on

9, 10, and 11 October 2000

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Yue Xiong

ACKNOWLEDGEMENT

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Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about October 9, 2000, and tentatively entitled "Interview with Yue Xiong". 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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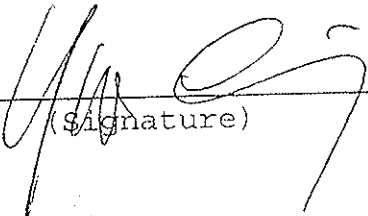
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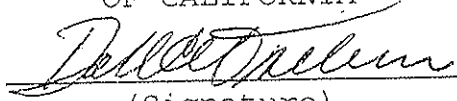
University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE

THE REGENTS OF THE UNIVERSITY
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(Signature)



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Date November 29, 2000

Pew Scholars in the Biomedical Sciences
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YUE XIONG

1958 Born in Nanchang City, People's Republic of China, on 5 June

Education

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1984 M.S., Shanghai Institute of Plant Physiology
1989 Ph.D., Biology, University of Rochester

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Assistant Professor, Department of Biochemistry and Biophysics
1993-present Member, Program in Molecular Biology and Biotechnology,
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1999-present Associate Professor, Department of Biochemistry and Biophysics

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1999 United States Department of Defense Breast Cancer Research Career
Development Award
1999 UNC Hettleman Award for Scholarly Achievement

Selected Publications

Li, Y. et al., 1994. Cell cycle expression and p53 regulation of the cyclin-dependent kinase inhibitor p21. *Oncogene* 9:2261-68.

Li, Y. et al., 1994. Transcriptional repression of the cyclin-dependent kinase inhibitor p16 by the retinoblastoma susceptibility gene product, pRb. *Cancer Research* 54:6078-82.

Guan, K-L. et al., 1994. Growth suppression by p18, a p16INK4/MTS 1- and

- p14INK4B/MTS2-related CDK6 inhibitor, correlates with wild-type pRb function. *Genes & Development* 8:2939-52.
- Yee, A. et al., 1995. Molecular cloning of CDK7-associated human MAT1, a CDK-activating kinase (CAK) assembly factor. *Cancer Research* 55:6058-62
- Guan, K-L. et al., 1996. Isolation and characterization of p19INK4d, a p16-related inhibitor specific to CDK6 and CDK4. *Molecular Biology of the Cell* 7:57-70.
- Ohta, T. et al., 1999. ROC proteins constitute active ubiquitin ligases with all cullins and are protected from proteasome-dependent degradation by their cullin partners. *Oncogene* 18:6756-66.
- Franklin, D.S. et al., 2000. Functional collaboration between different CDK inhibitors suppress tumor growth with distinct tissue specificity. *Molecular and Cellular Biology* 20:6147-58.
- Furukawa, M. et al., 2000. The CUL1 C-terminal sequence and ROC1 promote nuclear accumulation and NEDD8 modification of CUL1, resulting in efficient ubiquitin ligase activity. *Molecular and Cellular Biology* 20:8185-97.
- Ohta, T. and Y. Xiong, 2001. Phosphorylation- and SKP1-independent in vitro ubiquitination of E2F 1 by multiple ROC-cullin ligases. *Cancer Research* 61:1347-53.
- Zhang, Y. and Y. Xiong, 2001. A role of p53 N-terminal nuclear export signal inhibited by DNA damage-induced phosphorylation. *Science* 292:1910-15.

ABSTRACT

Yue Xiong was born in Nanchang, in Jiang Xi province, in the southern part of China, the eldest of three siblings (he has two younger sisters). His father was a forestry scholar who was sent to a labor camp during the Cultural Revolution. His mother learned some accounting work from an uncle, and she supported Xiong and her mother-in-law for several years while her husband was gone, all the while suffering with the effects of nutritional deficiency. When Xiong's father was finally allowed to return to his family, he was assigned to Nanhu, where Xiong lived until he left for college. After he finished high school Xiong worked on the farm where his family lived and taught elementary and junior high school. When the Cultural Revolution ended and the colleges reopened Xiong was able to take the entrance exam and finally to attend college.

He matriculated at Fudan University, which impacted both his farm and his community, pursuing a broad education until deciding to become a scientist. Xiong entered graduate school in the lab of San-Chiun Shen, at which time he found molecular biology in China to be out of sync with the performance of science elsewhere. Nevertheless, he had a keen interest in learning modern molecular genetics, and James Watson's book on the molecular biology of the gene had a great impact on him; he worked with David Ow on a nitrogen-fixation gene. Interested in the China-United States Biochemistry Examination and Application program (CUSBEA), Xiong spent time at the Guangzhou English Learning Center (GELC). Subsequently, Xiong's CUSBEA application to the University of Rochester was accepted, and on Dr. Shen's advice he went there. Transitioning to American culture took time, but he soon entered Thomas Eickbush's laboratory researching DNA sequencing and transposable elements of the *chorea* gene. Xiong helped develop the mild-extracting method for isolating linearized and supercoiled DNA and he also worked on the evolution of transposable elements and the analysis of reverse transcriptase. He considered several postdoctoral positions, including one with Harold Varmus, though finally decided to accept an offer in David Beach's lab at Cold Spring Harbor Laboratory in New York. He participated in a genetic approach to isolate G1 cyclin in mammalian cells; helped discover cyclin gene activation during the G1 phase; and studied the effect of p21 and CDK on cyclin. From Cold Spring Harbor he accepted a position at University of North Carolina at Chapel Hill looking at cell-cycle control and tumor suppression.

At the end of the interview, Xiong talks about the possible applications of his research; the future path of his research; his lack of bench time; the impact of the Pew Scholars Program in the Biomedical Sciences award; the impact and importance of technology on Xiong's work; and collaboration and competition in science. Xiong concludes his interview by explaining how he attempts to balance career and family responsibilities (his parents are still in China).

UCLA INTERVIEW HISTORY

INTERVIEWER:

William Van Benschoten, Interviewer, UCLA Oral History Program; B.A., History, University of California, Riverside, 1990; M.A., History, University of California, Riverside, 1992; C.Phil., History, University of California, Los Angeles, 1995.

TIME AND SETTING OF INTERVIEW:

Place: Xiong's office, University of North Carolina at Chapel Hill.

Dates, length of sessions: October 9, 2000 (133 minutes); October 10, 2000 (180); October 11, 2000 (147).

Total number of recorded hours: 7.7

Persons present during interview: Xiong 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 Xiong to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. He also reviewed prior Pew scholars' interviews and the documentation in Xiong'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 technical background, Van Benschoten 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 Xiong's childhood in Nanchang, China, and continuing through his undergraduate work at Fudan University, his graduate work at University of Rochester, his postdoc at Howard Hughes Medical Institute, and the establishment of his own lab at University of North Carolina at Chapel Hill. Major topics discussed include his family's persecution under the Chinese Communist Party, his education at Fudan University, his research in the Thomas H. Eickbush lab on DNA sequencing, and his current research on cell-cycle control and tumor suppression.

ORIGINAL EDITING:

Deborah Kolosova, 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. At Xiong's request, minor grammatical changes were made by the editor. Other words and phrases inserted by the editor have been bracketed.

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

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

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