CHEMICAL HERITAGE FOUNDATION

K. CHRISTOPHER GARCIA

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

David J. Caruso

at

Stanford University
Palo Alto, California

on

1 December 2008

(With Subsequent Corrections and Additions)

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K. CHRISTOPHER GARCIA

1962 Born in Washington, D.C. on 8 December

Education

1985 B.S., Tulane University, Biochemistry
1992 Ph.D., Johns Hopkins University School of Medicine

Professional Experience

Genetech, Inc.
1992-1994 Postdoctorate, Molecular Biology

The Scripps Research Institute
1994-1998 Postdoctorate, Molecular Biology
1998-1999 Assistant Member, Molecular Biology

Stanford University School of Medicine
1999-present Assistant Professor, M & I and Structural Biology

Honors

1999-2002 Rita Allen Foundation Starter Scholar Award
2000-2002 March of Dimes Basil O'Connor Junior Scholar Award
2000-2004 Cancer Research Institute New Investigator Award
2001-2005 Pew Scholar in the Biomedical Sciences
2005-present Howard Hughes Medical Institute Investigator

ABSTRACT

K. Christopher Garcia grew up in Falls Church, Virginia, the youngest of three children. His Spanish father was an anesthesiologist and his American mother an artist and housewife. Garcia always liked science, especially animals, and collected reptiles as pets. He attended an Episcopal school at first, but then went to a good public high school. There he began to get more serious about his studies and took an interest in science. He was also a very competitive junior tennis player and that was a major aspect of his life.

Garcia felt he had little guidance in choosing a college, but he wanted one with good science and a good tennis team; he chose Tulane University. After his first year there, he abandoned his goal of succeeding in a Division I college tennis team, and so quit the team and took up rugby. While always doing well in school without pushing himself, he had never been especially studious until he broke his neck while playing rugby in his sophomore year; during his recovery he became very serious about excelling academically. In addition, a complicating blood clot made him aware of the importance of physical fitness. Already planning to major in biochemistry, as it was both interesting and challenging, Garcia found a physical chemistry class taught by Eugene Hamori inspirational. Hamori was a world-class fencer from Hungary, which only added to his inspiring qualities.

Garcia next spent a year in Katherine Kennedy's pharmacology lab at George Washington University, where he worked on hypoxia in tumor cells. He went from there to Johns Hopkins University to work on lymphocyte adhesion receptors. He considers James Hildreth, who was a postdoc there at the time, to have been a very influential mentor in steering his interests into protein biochemistry. After taking Cecil Robinson's bio-organic chemistry class Garcia switched departments to biophysics and entered L. Mario Amzel's lab to focus on the structures of antibodies. As part of his thesis, he spent some months in Stephen Desiderio's lab to clone and sequence antibodies. These experiences, together with reading a paper from Mark Davis at Stanford on the cloning of the T cell receptor, led Garcia to take on the challenge of determining the TCR structure and how it sees its ligands.

When he had finished his PhD, Garcia took his interest in receptors to a postdoc at Genentech, where he worked with David Goeddel, Tony Kossiakoff, and Jim Wells to learn aspects of recombinant protein expression and protein engineerin. He found Genentech's scientists very impressive, the organization and structure both academic and businesslike. After two years he accepted another postdoc at Scripps Research Institute, working in Ian Wilson's lab, because he felt that solving the structure of the TCR was a 'holy grail' for the field, and would require a great deal of financial and infrastructural support, which Ian Wilson provided. During his stay at Scripps he and his colleagues published a landmark paper on the first TCR and TCR/MHC structure in *Science*. Shortly following that work, he accepted an assistant professorship at Stanford University.

At the end of the interview Garcia discusses his lab setup and his lab's work on cytokines through gp130. He continues with a description of the Pew Scholars Program in the Biomedical Sciences award and their annual meetings; and finishes by explaining how he obtained his Howard Hughes Medical Investigator award and how he has been using the two awards.

INTERVIEWER

David J. Caruso earned a B.A. in the History of Science, Medicine, and Technology from the Johns Hopkins University in 2001 and a Ph.D. in Science and Technology Studies from Cornell University in 2008. His graduate work focused on the interaction of American military and medical personnel from the Spanish-American War through World War I and the institutional transformations that resulted in the development of American military medicine as a unique form of knowledge and practice. David is currently the Program Manager for Oral History at the CHF. His current research interest focuses on the discipline formation of biomedical science in 20th-century America and the organizational structures that have contributed to such formation.

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