

[<< back](#) 

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Caroline Damsky

Caroline Damsky's career has shuttled her from coast to coast. She grew up in Manhattan, went to college at Stanford, received her Ph.D. from Penn, spent another ten years as a postdoc and staff member at The Wistar Institute in Philadelphia, and has been at the University of California, San Francisco since 1985.

Damsky attributes her ambition in part to her single-sex education: "I went to an all-girls school, the Brearley School, in Manhattan. I was hooked on science in my 10th grade chemistry class. I felt great independence at the Brearley and saw women in positions of power and responsibility." Damsky, who stands 6'1", took advantage of her stature by participating in competitive sports, which she feels helped build her confidence. Zena Werb, a longtime collaborator at UCSF, says Damsky still uses her height to her advantage. "Caroline is someone who can command attention. Not in a self-centered way. She is a real pioneer in the field, and her physical stature helps give her intellectual stature."

Damsky majored in Biology at Stanford, after which she earned initially a Masters degree in Biology, thinking she would teach high school. However, she found she really loved research, and began working as a technician in Lee Peachey's lab. It was through Peachey that she was first introduced to the ASCB. During Peachey's sabbatical, Damsky started collaborating with a graduate student in another lab on a project to determine how yeast mitochondria are modified during the transition from anaerobic to aerobic growth. This resulted in a JCB manuscript, and inspired her to raise her sights and pursue a Ph.D. During this period, Damsky also married and had a daughter, Lee Frances.

Damsky's husband Ben was earning a "real" salary as a physicist at General Electric when she finished her degree, keeping the young family in Philadelphia. Damsky took a postdoc with Leonard Warren at the Wistar Institute, who was interested in the role of altered glycosylation of cell surface glycoproteins in tumor cell behavior. She became a member of the scientific staff at The Wistar in 1977 following her postdoc. Damsky recalls her initial years as an independent investigator at the Wistar with great enthusiasm: "it was a great place to start my career because I was surrounded by talented scientists who introduced me to the field of cell adhesion at a very exciting time, and I didn't have all the administrative and teaching responsibilities that one has at a university. I did some teaching across the street at Penn because I enjoyed it, but I did not have to do it. It was like having seven years of protected time after my postdoc." She worked in collaboration with Clayton Buck and Karen Knudsen at the Wistar, and Rick Horwitz, then at Penn. They developed purification strategies for cell-extracellular matrix and cell-cell adhesion receptors, whose identities were not known in the late 70's and early 80's. They developed and characterized the first monoclonal antibodies against cell-ECM receptors, which were later termed integrins.

In 1985 Damsky's husband had an opportunity to change jobs and move to California. With the help of Zena Werb, Steven Rosen and Pat Calarco, Damsky found a welcoming environment at the School of Dentistry at UCSF, which was seeking to build basic research strengths in the areas of cell-ECM interactions and connective tissue biology. Initially, Damsky's research at UCSF focused on the role of cell adhesion receptors in early mammalian embryogenesis and formation of the placenta. This continues, alongside studies of the role of integrin-fibronectin interactions in both the regulation of metalloproteinase gene expression in fibroblasts and in the regulation of bone formation. "The overall hypothesis is that there is a lot of information in extracellular matrix. It is very complicated and cells must use their cell surface receptors to decode this information during tissue morphogenesis and remodeling. We address the mechanisms underlying this decoding process in several systems, some relatively simple: regulation of proteinase expression by integrin-fibronectin interactions in cultured fibroblasts; others more complex: regulation of morphogenesis and differentiation of trophoblasts and osteoblasts in vivo and in vitro."

Damsky presently serves on the National Institute of Dental Research Council; earlier she served on the Cell Biology-2 study section. Of study section service, Damsky observes that the peer review system is essential, but is increasingly stressed as "paylines become so low that you have to choose among really good grants. When I served on study section several years ago, we were still able to decide between good and not-so-good applications." Damsky does not exempt herself from the overall problem, noting that this trend is exacerbated because "people like me keep producing more of ourselves to compete for a pie that is not growing." Damsky admires the students and postdocs at UCSF who have challenged the faculty and taken the initiative to organize regular seminars and discussions that explore the multiple career paths that could and should be open to well trained scientists.

In addition to her research accomplishments, Damsky has also been recognized for teaching, receiving a Distinguished Teaching Award from UCSF in 1991 and the Outstanding Teacher of the Year Award from her department in 1992. She attributes this recognition in part to her role in developing the Ph.D. curriculum and training program in the School of Dentistry. Damsky notes that she particularly enjoys

"teaching in a seminar format in which I lecture some, but students also present papers and we then have discussion."

Damsky's contact with the ASCB started when she was still a technician at Penn. She remembers that her first ASCB Annual Meeting made her "feel at home." Since then, she has served in many different capacities for ASCB: as a member of the Program Committee in 1985-86, as Chair of the Publications Committee from 1987-1988, and on Council from 1990-1993. It was during her tenure on the Publications Committee that Cell Regulation, the precursor to the Molecular Biology of the Cell, was born. Damsky has served on the editorial board of the Journal of Cell Biology since 1992 and is about to join the editorial board of Molecular Biology of the Cell. Activities of the Women in Cell Biology have also been close to her heart. She feels that WICB activities help to give the Annual Meeting a more personal atmosphere, which is increasingly important, given that growing size of the meeting.

Damsky remarks that the collaborative environment at UCSF is striking. She remembers that within a week of her arrival, Lou Reichardt was on the phone hunting antibodies against adhesion receptors that might be involved in neurite outgrowth. Over the years, several joint publications have resulted from the Reichardt and Damsky labs. Women colleagues have offered particularly rewarding collaborative opportunities to Damsky. Four colleagues in particular, Susan Fisher, Zena Werb, Ruth Globus and current ASCB President Mina Bissell, have been longtime research collaborators in the Bay Area. Damsky notes that "these collaborations have been wonderful, both scientifically and personally. They are real illustrations of my belief that science is a social sport." Fisher, with whom Damsky collaborates in the area of trophoblast biology, explains that she knew that her collaboration with Damsky would work when they dressed up for Halloween as the fetal-maternal unit: "I was the placenta and Caroline was the baby with the umbilical cord." According to Werb, part of the reason for the close collaborations among her colleagues at UCSF is the lack of space: "the well known lack of space at UCSF forced us to find creative solutions to our problems and it has fostered a kind of scientific extended family." Mina Bissell says, "Caroline is considered to be one of the pioneers in early studies of finding reagents to study integrins. She is generous with her knowledge and reagents as well as being a supportive and thoughtful colleague. It is a pleasure to know her and a privilege to collaborate with her."

Damsky has also received a great deal of support from her husband and daughter. "Ben is my biggest fan. He understands my late nights and brags about me to friends and family." Daughter Lee, now 26, completed her undergraduate degree in art history from Wesleyan University and now works for a small publishing firm in Seattle. When Damsky recalls her daughter's childhood, her maternal instinct emerges: "she was a humanizing influence on me and helped me not to spend too many late nights in the lab. She was always happy to see me walk through the door in the evening, whether my experiment that day had worked or not."