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1999

Carol W. Greider

Carol Greider grew up in Davis, California where her father, Ken Greider, was a physicist at the University of California. Her mother was a biologist who died when Carol was six and her brother, Mark, was seven. Greider thinks her parents ultimately formed her decision to go into science, and that her father certainly influenced her attitude about academic science: "My father would talk about academic freedom and the importance of liking what you do. He would say, 'You can do whatever you want, but you have to like whatever you do.'"

Despite her eventual career, Greider claims that she wasn't one of those kids who had a chemistry set. But she enjoyed her high school science classes, and by the time she applied to college she was interested and intent on marine biology, choosing to attend UC Santa Barbara. She was influenced in part by a visit to the campus where she met a faculty member, Bea Sweeney, who had supervised Greider's mother as a postdoc.

In her first year, Greider worked in Sweeney's lab on cell biology and circadian rhythms. In her sophomore year, Greider worked in Les Wilson's lab with Kevin Sullivan, then a graduate student, and David Asai, then a post-doctoral fellow. "They were my first molecular biology mentors and they convinced me that I was interested in molecular biochemistry," recalls Greider. She spent her junior year in Germany with the help of Asai and Wilson, who arranged for her to continue her lab work there. She returned from overseas to a stern lecture by Asai about the merits of graduate school at Cal Tech. But a chance meeting of Liz Blackburn changed her trajectory and she headed to UC Berkeley for graduate studies.

Once Greider entered Blackburn's lab, she searched for, and found, a new enzyme that elongates telomeres. Their work then focused on the characterization of this unusual enzyme, telomerase. Blackburn says of Greider, "Carol was a joy to have as a graduate student. She was not only smart, of course, but she had – and still has – a great combination of qualities for a scientist: she is fearless and at the same time rigorous."

Unusually, Greider turned down a postdoc in Bruce Stillman's lab at Cold Spring Harbor Laboratory in favor of what she thought was a better opportunity: an independent postdoc position there, where she could continue to work on telomerase. Greider remained at CSHL for ten years, where she nonetheless enjoyed Stillman's support when he later succeeded James Watson as Director of the Laboratory. Greider feels that the hallmark of her tenure at CSHL was a lot of good colleagues with whom to interact. Although it was somewhat daunting to be quizzed by Watson on the latest publications or telomeres, she also felt very supported. "Both Bruce and Jim advised me to just do the best science I can do and to not worry about the rest of it," she says. While she was able to attract her own funds, she also acknowledges that "just knowing that they would provide what I needed was a very nice environment to be in as a young faculty member. Senior faculty at Cold Spring Harbor are very committed to making sure junior faculty do well, partly because it is such a small place."

In 1997, Greider left Cold Spring Harbor in part because her husband, Nathaniel Comfort, was offered a position as an Assistant Professor of History and Assistant Director of the Center for the History of Recent Science at George Washington University – an even more competitive academic field than basic biomedical research. She was delighted, therefore, to be offered an Associate Professorship at Johns Hopkins University.

At Hopkins, Greider's lab is divided between those working on the biochemistry of telomerase to identify and characterize telomerase components, and those working on the consequences of telomere dysfunction, including the role of telomeres in tumor growth. Greider's earlier work, in collaboration with Ron DePino's lab at the Dana Farber Cancer Center, produced a knockout mouse that lacked telomere activ ity, generalizing the questions on which Greider's lab focuses: to what degree telomeres are required for tumor formation, and what happens when chromosomes lacking telomeres fuse together. They are also interested in what happens to chromosome stability when telomere function is lost.

Greider realizes that she has internalized the management philosophy of her mentor Liz Blackburn to allow people the freedom to pursue their own ideas: "the lab is going in seven or eight different directions at the moment," she explains, but she defends the apparent chaos because it allows her students and postdocs the freedom to explore avenues that interest them.

Two years ago, Greider was appointed by President Clinton to the National Bioethics Advisory Commission, formed by Congress to deal with sensitive issues at the interface of science and society. She modestly claims that they were looking for a young female scientist from the Northeast to diversify the Commission. Greider admits to having rarely considered bioethics when she joined the Commission,

but she has come to learn a great deal about it in the two years since, becoming a vocal member of the group. Because most members of the Commission are not basic scientists, she feels a special burden to contribute to its deliberations on critical and easily misunderstood research issues such as cloning and stem cells. She reserves exceptional praise for NBAC Chairman Harold Shapiro, President of Princeton, whom she regards as a leadership role model. Kathy Hudson of the National Human Genome Research Institute and Greider's graduate school colleague observes, "it has been fascinating to watch Carol learn about and contribute to the world of ethics, policy and politics. We need more basic research scientists to understand, care about, and get involved in public policy debates. I hope Carol's example inspires others."

In 1994, Greider attended her first ASCB Annual Meeting (where she spoke) and the next year, she received the Society's first Glenn Foundation Award. At that meeting, she obtained the signatures of Mary Lou Pardue and Joe Gall to sponsor her membership in the ASCB, feeling conspicuous for recruiting such heavy hitters – both former presidents – as sponsors for her membership. She found that there were many people at the meeting she knew and she was attracted to the interesting and diverse science.

Recently, Greider was elected to the ASCB Council, on which she will serve through 2001. She is particularly interested in learning more about and becoming involved in the public policy and education activities of the Society.

Greider and her family live near the Homewood "faculty ghetto" of Johns Hopkins University. She and her husband have a son, Charles, who is two-and-a-half, and to whom most of Greider's time outside of work is devoted. Before becoming a mother, Greider was a triathlete, an achievement crowned by the completion of literally Olympic proportions: a mile-and-a-half swim, a 35-mile bike ride and a 10K run. But at this stage of her life as a mother and a researcher, she feels that triathletics is a luxury she cannot afford.