

1994

Mary Beckerle

Mary Beckerle joined the ASCB while a graduate student in Keith Porter's laboratory in the late 1970s at the University of Colorado in Boulder. At the time, she says, the ASCB Annual Meetings were the only major opportunity for young aspiring cell biologists and students to give presentations. Beckerle found this scientific exchange exciting and rewarding.

Beckerle is now Associate Professor of Biology at the University of Utah, and the ASCB is beneficiary of her early loyalty; she is currently serving as Co-Chair (with Bill Wood of the University of Colorado) of the 1994 Annual Meeting Program Committee.

Beckerle says her interest in organizing the San Francisco meeting is a direct result of her days as a student. Because of that past experience, she and other members of the Scientific Meetings Committee are working to develop more opportunities for graduate students and postdocs to participate in the minisymposia. She also believes that the ASCB should continue the tradition of sponsoring lectures on emerging public policy issues. Last year's keynote address by NIH Director Harold Varmus was a tremendous success and this year in San Francisco, Francis Collins will speak on Human Genetic Disorders and the Human Genome Project.

Beckerle has also been active in ASCB's Women in Cell Biology Committee (WICB) since she was a graduate student. She found the WICB gatherings at the annual ASCB meetings which focussed on a range of fundamental topics such as how to get a grant, how to get a job, how to deal with discrimination, and combining careers with family to be extremely informative and useful. In 1986, WICB awarded her its first Career Recognition Award for an Outstanding Young Investigator. That same year, she agreed to serve on the WICB Committee because of her commitment to encouraging talented young women who are interested in pursuing scientific careers. Beckerle knows from the comments of many of her students that the WICB panel discussions are still a great feature of the Annual Meetings.

Beckerle has also served, since 1990, on the editorial board of *Molecular Biology of the Cell*.

As a child, Beckerle never aspired to become a scientist; she had rather eclectic tastes and wanted to be either a fireman or a ballerina. Nevertheless, she enjoyed and excelled in science. After high school, she attended Wells College in Aurora, New York, where she graduated in 1976, Magna Cum Laude and Phi Beta Kappa. Her major was in biology and psychology. One important early influence on her career was Pat Sullivan, her biology teacher at Wells, whom Beckerle recalls was an outstanding teacher and I wanted to take every one of her classes. After graduating from college, she worked as a research assistant at the University of Texas Medical Center and found she liked it and decided to pursue graduate work.

So, in 1977 Beckerle began graduate studies at the University of Colorado. Boulder attracted her because, at the time, it was one of the few graduate programs with a broad program in molecular, cell, and developmental biology. Studying under Porter, her research focused on defining the mechanism of intracellular transport. She studied the mechanism of pigment granule movements in chromatophores of the squirrelfish, *Holocentrus*. Using immunocytochemical, pharmacological, and electron microscopic studies, she demonstrated that the pigment granule motility was dependent on the presence of a radially-arrayed microtubule cytoskeleton and demonstrated that the centripetal movements of the pigment granules that occurred during the aggregation response were blocked by inhibitors of dynein function. These observations were one of the first indications that dynein-like proteins might be involved in intracellular transport. Beckerle recalls that Porter was an amazing scientific mentor who really loves biology. Porter endowed me with a great appreciation for the beauty and diversity of biological systems. Another influential and enthusiastic mentor in her life at Boulder was ASCB President Dick McIntosh, whose passion for good science, says Beckerle, was contagious.

In 1983, following her graduate work Beckerle began her post-doctoral training with Keith Burridge at the University of North Carolina at Chapel Hill where she studied the mechanism and regulation of cell interactions with extracellular matrix. Much of her work at Chapel Hill was directed toward defining the molecular architecture of adhesion plaques, specialized regions of the plasma membrane that mediate the cell's association with an underlying substratum. Her postdoc was one of her most enjoyable experiences in science and Keith Burridge was an extremely supportive mentor. When she was not studying cell adhesion, Beckerle was on the volleyball court, where she met her husband, David Murrell, who owns an export-management company that services U.S. sporting goods products for markets in Europe and Asia.

In 1986 Beckerle moved to the University of Utah where she joined the Biology Department as an Assistant Professor. She was promoted to Associate Professor in 1991. There has been tremendous growth in the biological sciences at Utah since Beckerle arrived there and she finds it to be a very energetic, broad, and interactive place to do science.

Beckerle's current research effort is focused on understanding the links between cell adhesion and transmembrane signalling. Beckerle likes to use as many strategies as possible to tackle this problem, so her lab is now engaged in biochemical, molecular, cell biological, structural, and developmental genetic approaches.

In addition to her research interests, Beckerle is actively involved in both undergraduate and graduate teaching. She has had numerous undergraduates working in her lab and the majority of those students have gone on to pursue advanced scientific studies. Her commitment to teaching was recently recognized when she received a student-established award for the best upper-division Biology course at the University of Utah. Beckerle thinks it is key, even in a large university setting, to get students out of the passive learning mode that characterizes a typical lecture course. Beckerle's cell biology undergraduates read numerous papers from the original literature each week, meet in

small discussion groups to critically analyze the scientific data, give oral presentations, and write news and views style critiques. In the end, the students really feel they have accomplished something, and they have.

Since going to Utah, Beckerle has also dabbled in state Democratic politics. She became a Delegate at the Utah State Democratic Convention for 1992 and 1993 and worked on a recent gubernatorial campaign. Beckerle and her husband take advantage of Utah's natural beauty and enjoy backpacking and mountain biking in the desert canyons. They also like travelling to exotic places like Borneo to see the rainforest and search for the elusive orangutan. Recent travels have included Turkey and the Czech Republic. Two years ago, she decided to see things below sea level and became a certified scuba diver. Her first open water dive was in Bonaire, an island off the Netherlands Antilles. Although she did not see any hammerhead sharks, at least she avoided the barracudas.