

[<< back](#) 

1997

Sandra Murray

Sandra Murray has devoted her life to science. Ever since grammar school she has wanted to know more about things scientific. Her interest was fostered by an annual week-long science fair at the public school she attended on the north side of Chicago. Initially she attended because of a pre-adolescent fascination with how the body functions and because "the fair got me out of class." But she discovered that science came easily to her and she began to read more. "My parents had a moving and express business. People would leave books behind and they became my toys." Her father thus accumulated a large collection of books and encouraged Sandra to read. Among her favorites are some flip-book atlases that a surgeon, who repaired a broken clavicle she had suffered when she was eight, gave to her. She still has them to this day.

Murray's interest in science was further fostered by a Saturday science program at the University of Chicago. This city-wide program brought kids to the university to work in labs. She also remembers science demonstrations and trips to the anatomy museum. In high school, Murray went to work in a lab at the University of Illinois. "At first I just cleaned histology slides to be used in experiments by first-year medical students, but then I was shown how to cut paraffin sections to be used in microscopic studies", she recalls. Her supervisor, Lucille Wintworth, made her feel that she had an important part to play in each research project. This feeling of validation inspired Murray to work in the lab on holidays and weekends, and in the summers.

Murray went to college at the University of Illinois in Chicago where she majored in Biology. She especially enjoyed working in the histology lab with Wintworth while attending the University. Following college, Murray went to the Texas Southern University in Houston "because it was warm there" and enrolled in the Biology masters degree program. She had received no academic counseling and thus it had not occurred to her that a doctorate was an option for her. Happily for Murray, one of the faculty, John Sessions, recognized her potential, sat her down and said, "you will be limited by holding only a Master's degree, you're not going to stop there." Texas Southern did not offer a Ph.D. program, but in retrospect Murray recognizes the importance of her experience there. "Not only was Texas a warm place" she says, "the program gave me security and showed me I could do it." She was honored for her hard work by receiving the Achievement, Leadership and Character Award for Outstanding Contributions to Texas Southern University. Murray took this confidence to the University of Iowa where she received her Ph.D. "This time," she explains, "I wasn't moving simply for a new climate, but I had made an informed decision."

After receiving her Ph.D. at Iowa, Murray took a postdoc at the University of California, Riverside; it was this experience that made her realize her potential as a researcher. Working in the lab of William Fletcher (who was one of the reasons she went to California), Murray was given the same kind of freedom and trust she had found during her Master's program at Texas. "Dr. Fletcher was a fantastic mentor," remembers Murray. Not only was Fletcher an inspiring teacher to Murray, but his work was also of great scientific interest. He was looking at endocrine cells and second messengers, signal transduction, specifically signal transduction molecules as they relate to function in cells. He also studied where and how enzymes were activated to bring about the response in the cell population. "I had done my Ph.D. thesis on cell communication and how cancer cells behaved, and his work connected beautifully to mine." While his focus was slightly different from Murray's, the techniques he was using were vital to her research. Murray describes Fletcher as someone who could encourage people as well as offer constructive criticism. "He was receptive to my ideas", she says, "and would provide me with the equipment I needed and, again, I felt as if I had no limits." Fletcher was impressed with Murray as well. He describes her as someone who has a great deal of energy and liked by everyone. He sums her up: "she has the right genes, the right background, and the right attitude."

At the end of her postdoc in 1982, Murray took a position at the University of Pittsburgh. She was awarded tenure in 1989, and other than a one-year sabbatical she has been there ever since. "I am an Associate Professor with tenure and it feels good," she says proudly. She began at Pittsburgh by teaching Gross Anatomy to medical students and she continues to enjoy teaching. When Murray first came to the University of Pittsburgh, she was one of the few African American professors at the university and was thus asked to participate on a great number of committees. Fletcher remembers talking to Murray about this added responsibility and encouraging her to get off some of the committees so that she could concentrate on her research and teaching, which she did. "I love working with research students in the lab," she explains. Students interest her because they are very enthusiastic and can communicate well about science. "I find they are intimidated at first but then I like to watch their self-confidence grow", she explains. So committed to her students is she that two years ago she took some with her to France for a "mini-sabbatical" in Lyon.

Murray's work focuses on the molecule cyclic AMP and its kinase and she continues to work on cell-cell interactions during endocrine response. Most of her work is focused on the adrenal gland and the

hormonal response of secreting hormones into the blood.

Murray's sabbatical year in San Diego in 1991 with Bernie Gilula at the Scripps Research Institute was another affirming experience in her career. Of working with Gilula, Murray says it was, "a very positive and active experience." Their work was on signal transduction. Upon her arrival, Gilula introduced her to his lab by declaring, "this is Dr. Murray and I want you to help her." The message was "if you help her you are helping me." This welcome, which Murray subsequently learned was standard for new lab arrivals, made Murray feel as if she could call upon her new colleagues as she needed them. "This introduction, particularly for a woman scientist or the scientist who may not look like everyone around the table helps in breaking through that glass ceiling." Gilula says that Murray is "so positive and full of constructive energy if I had a way to keep her here I would. She is a wonderful person who is committed with passion to the field." Gilula was "fantastically supportive" says Murray, and the experience was rich scientifically. Murray notes that San Diego is a great place for research, with UCSD, the Salk and Scripps all right there; and Gilula's lab is furthermore a diverse group of people who are well integrated. Murray felt that everyone had a role to play in the lab and they were all expected to work up to their potential. Gilula noted that Murray even found time for the graduate students that Scripps was training at the time, talking with them about their work, their careers and even how to write and communicate in science. Murray says, "I felt I had no boundaries there."

When asked about her involvement with the ASCB, Murray responds that being a member of the Society is very important to her. She is especially fond of the Annual Meeting because it brings people together and inspires colleagues to come up with new ideas. "It's like my experiences as a child when I came together with scientists who inspired me." Murray has served as a member of the ASCB Minorities Affairs Committee twice, from 1989-93, and recently rejoining. "I became a member of this committee because there is a population of young scientists who have a lot to give to science and I want to make sure the doors are open to them, and I want to make sure they are comfortable and successful. Cell biology has done a good job of encouraging these young people." She is also pleased with the special programs at the Annual Meeting geared towards young scientists, including those about how to get a grant and how to publish. "Those [programs] show the yellow brick road and provide advice about how to reach career goals." Murray herself benefited from ASCB travel awards and recognizes their value to young scientists.

Murray's work clearly dominates her life: she half-jokingly says she doesn't have time to do anything other than grant writing. Even her free time is spent on science. She is a judge at the National Technology Association Science and the International Science and Engineering Fairs and she works with high school students preparing them for these competitions. Like those who inspired her at a young age, Murray feels it is very important to help young people become interested in science. Her colleagues report she is not all work, though: she is passionate about the arts and the theater and has a great sense of humor. The one thing she says she likes to do which is not scientific is to dance. "I like to dance and I'm pretty good," she confesses.