EDITORIAL

Priscilla Schaffer (1941–2009): a Stalwart Herpesvirologist†

Priscilla Ann Schaffer died from complications of Parkinson’s Disease on 18 November 2009. Priscilla was a colleague and a friend, as well as being a stellar member of the virology community. She was a longtime Journal of Virology reviewer, a member of the editorial board, and a frequent contributor. Her energy and enthusiasm for virology, her students, her colleagues, and life in general were exceptional. She will be missed. Her colleague Donald Coen has prepared a memorial celebrating her life and accomplishments.

Lynn W. Enquist
Editor in Chief, Journal of Virology

IN MEMORIAM

Priscilla Ann Schaffer died from complications of Parkinson’s disease on 18 November 2009, near Tucson, Arizona, where she was a Research Professor in the Department of Molecular and Cellular Biology at the University of Arizona. A stalwart herpesvirologist, Priscilla was recognized throughout the virology world for her genetic approaches to numerous aspects of virus infection. She authored more than 150 original research papers, many of them in this journal. She was a champion for scientific integrity and a strong mentor of students, postdoctoral fellows, and fellow faculty.

Priscilla was born in St. Louis, Missouri, on 28 December 1941. Priscilla retained an unwavering loyalty to the Cardinals baseball team of her native city, even in the face of Red Sox Nation, Phillie Phanatics, and their ilk. Priscilla’s father was a newspaperman who then became an Episcopal minister, resulting in relocations to smaller communities in the American heartland. Priscilla’s mother’s family included a physicist, an engineer, mechanics, and machinists. Priscilla was interested in science from a young age and would dissect caterpillars and frogs on the front porch of her family’s home. After high

†Published ahead of print on 28 April 2010.
school in Ohio, Priscilla attended Hobart and William Smith College in Geneva, New York, graduating in 1964. She then entered graduate school at Cornell University Medical College in New York City. There, she began her virological career, studying Venezuelan encephalitis virus infections in mosquitoes with William F. Scherer. Priscilla showed uncommon dedication to research, even catching and feeding the mosquitoes by offering them her arms.

In 1969, Priscilla received her Ph.D. She then joined the Department of Virology and Epidemiology at Baylor College of Medicine in Houston, Texas, working with Matilda Benyesh-Melnick as a postdoctoral fellow. She quickly transitioned to Assistant Professor in 1971. The department was a vibrant milieu, headed by Joe Melnick, and included Janet Butel, Gordon Dresman, Mary Estes, Dick Courtney, Saul Kit, Ken Powell, Dorothy Purifoy, Fred Rapp, Judy Tevethia, and Tev Tevethia. Many of these investigators either focused on herpesviruses or collaborated with the herpes group. As younger members of this group moved on to form their own laboratories, they spread the teachings of the “Houston school” of herpesvirology. While at Baylor, Priscilla made her mark by isolating a collection of temperature-sensitive mutants of herpes simplex virus 1 (HSV-1) and HSV-2 and characterizing them using genetic tests such as recombination and complementation, as well as biochemical and electron microscopic assays, to categorize the defects in terms of DNA synthesis, protein expression, virus assembly, and immune recognition (for an example, see reference 15). While at Baylor, she also isolated mutants resistant to immune cytolysis (14) and did some of the first work on drug-resistant mutants of HSV (10). Priscilla’s mutants became invaluable reagents for the herpesvirus community.

In 1976, Priscilla was recruited to what is now the Dana-Farber Cancer Institute and the Department of Microbiology & Molecular Genetics at Harvard Medical School (HMS). She joined a group of investigators at the Farber working on known and potential tumor viruses. This was a time when HSV was thought to have tumorigenic potential due to some epidemiological associations with cervical cancer. During this era, senior investigators at the Farber, such as Art Pardee, Ruth Sager, and Jack Strominger, recruited a cohort of young virologists and molecular biologists, including Geoff Cooper, Lorraine Gudas, Ulla Hansen, Bill Haseltine, Richard Kolodner, Gerry Rubin, Bruce Spiegelman, Jack Szostak, and David Thorley-Lawson. Priscilla more than held her own in this crowd and, indeed, helped nurture and support her colleagues. The appeal of Priscilla’s genetic approaches and her welcoming personality led to numerous postdoctoral fellows and graduate students joining her laboratory. Priscilla became an active participant in the virology graduate program as well as in the evolving multidisciplinary umbrella graduate program at HMS. The lab created new mutants and exploited the collection of existing mutants using the new tools of recombinant DNA and molecular biology, exploring events during productive HSV infection in cell culture, such as gene expression (5, 6), DNA replication (18), or both (19), glycoproteins (13), and mechanisms of antiviral drug action and resistance (3). An additional major contribution was made by postdoctoral fellow Sheila Little, who started a Schaffer lab tradition when she brought a protocol for the distillation of gin to the laboratory. Priscilla was promoted to Professor in 1981.

In the 1980s, Priscilla expanded her focus to studies of HSV latency in a mouse model by becoming principal investigator of a collaborative program project (which has continued to this day) with two HMS colleagues, Donald Coen and David Knipe. Again, Priscilla undertook a genetic approach that helped establish stages of latent infection (12). When the HSV latency-associated transcripts (LATs) were discovered (17), her lab constructed a LAT deletion mutant and found that although LAT was not required for certain stages of latency, it was important for reactivation in a mouse model (11). Subsequent work using her mutant showed that the LAT locus is important for repression of “lytic” viral gene expression in acutely and latently infected ganglia (2, 7).

In the 1990s, Priscilla sought to harness her leadership skills and took on the position of Chair of the Department of Microbiology at the University of Pennsylvania School of Medicine, where she served from 1996 to 2000. At Penn, she joined a new group of virological colleagues who were also old friends, including herpesvirologists Jim Alwine, Gary Cohen, Roz Eisenberg, Nigel Fraser, and Harvey Friedman. Priscilla’s research during this period focused on the roles of cellular cyclin-dependent kinases (16), the viral protein that binds the HSV DNA replication origin (9), and the immediate early protein ICP0 in latent infection (8).

Not all aspects of chairing a department are necessarily pleasant or fulfilling, and in 2000, Priscilla returned to HMS, this time in the Department of Medicine at the Beth Israel Deaconess Medical Center (BIDMC), where she worked alongside infectious disease researchers, including Clyde Crumpacker, Joyce Fingeroth, Anne Nicholson-Weller, and Peter Weller. Once again, Priscilla was a magnet to graduate students and postdocs, who constructed and analyzed sophisticated sets of mutants in replication origins and viral immediate early proteins (1, 4). It was during this period that the symptoms and then the diagnosis of Parkinson’s disease emerged. Priscilla had always intended to move to Arizona, where she owned land, and her condition and the wish to reduce her responsibilities led her to make the move in 2007. She established an active lab and had an important impact on her colleagues, including Kathleen Dixon, Felicia Goodrum, and Jennifer Hall, even in the short time she had remaining. She constructed her dream house in the desert, and was able to move in and enjoy a housewarming party just before she died.

Priscilla served on as many kinds of committees as one would expect for a scientist of her stature, but her counsel was especially valued in the area of scientific integrity. She served two stints on the HMS Standing Committee on Faculty Conduct, was a member of the Expert Scientific Advisory Panel of the NIH Office of Scientific Integrity, and was a member of the Congressional Commission on Research Integrity, where she helped draft guidelines for scientific conduct. Priscilla could be quite incisive and decisive on these issues, but she was also fair and compassionate.

Priscilla’s greatest impact may well have been as a mentor, not only to the more than 50 graduate students and postdoctoral fellows who trained with her but also to faculty colleagues. She paid close attention to everyone who worked with her. She was always ready with advice and support and, when necessary, a gentle kick in the pants. She made sure that her trainees not only learned experimental science but also knew how to communicate it in written and oral forms. Her editing was legendary. Those who worked on a manuscript with Priscilla dreamed at night of pages dripping with red ink. Lab members who gave talks at scientific meetings were exceptionally prepared. The mentoring did not end when the trainees left the lab—not even when they became tenured faculty and department chairs. Priscilla cared. So did her trainees and colleagues. A symposium held in Priscilla’s honor at HMS in...
June 2007 drew scores from all over North America, and when she grew more ill, they sent messages of support. Priscilla was extremely neat and well organized; every item on her desk was parallel to a desk edge. Priscilla liked riding horses, driving fast cars, and swapping stories over good food and drink (she favored single malts). She disliked sentimentality, and could be heard saying, “Emesis,” when something sappy occurred. Priscilla had strong artistic skills, which served her well in drawing cartoons of viral processes. Perhaps unknown to fellow virologists, Priscilla was also musical, having played cello and baritone horn in her youth. She preferred classical music to rock, but appreciated the Beatles and others and could be counted on to dance, especially at the early herpesvirus workshops at Cold Spring Harbor, NY. She was a constant at herpesvirus meetings, and in her honor, a fund to be made to the Beth Israel Deaconess Department of Medicine Foundation with Priscilla Schaffer Lecture Fund on the memo line and sent c/o Donald Coen, Department of Biol. Chem. & Mol. Pharmacol., Harvard Medical School, 250 Longwood Ave., Boston, MA 02115.

Aside from her many colleagues and trainees, Priscilla is survived by her mother, four siblings, her nephews and nieces, and her caretaker and friend Madelon Cook.

I thank Priscilla’s sister Judy Burt and numerous friends, colleagues, and trainees of Priscilla for kindly sharing information for this essay.

REFERENCES