molecular oral microbiology

Tribute

We are saddened by the loss of our longtime colleague, friend, and mentor, Dr. Paula Fives-Taylor, Professor of Microbiology and Molecular Genetics Emerita at the University of Vermont (UVM). Paula passed away peacefully on January 28, 2015 at the age of 81. Her career, which spans more than four decades, was focused on bacteria-host interactions with an emphasis on pathogenesis. Her initial interests were centered on fimbriae production by the gut commensal *Escherichia coli*. Over the following years, Paula's significant contributions included identifying some of the first adhesins associated with streptococcal adherence and colonization of host tissues, and discovering that *Aggregatibacter actinomycetemcomitans* (*Aa*) invaded oral epithelial cells. Her research group was the first to characterize a lipoprotein that serves a family of bacterial transporters important for streptococcal adaption to oral and extra-oral environments. Paula's group also pioneered studies of a sugar-coated serine-rich adhesin and its function in the colonization of *sanguinis* streptococci to the tooth surface. These two adhesins are both highly conserved and widespread among Gram-positive bacteria, and have since been extensively studied by numerous investigators worldwide. Paula's research in these areas earned the continuous support of the NIH for 29 years, including a prestigious NIH Merit Award from 1994 to 2004.

Paula Fives-Taylor

Less known to the oral microbiology community was Paula's work on establishing a connection between intrauterine devices and pelvic inflammatory disease. Her early studies and testimony in a lawsuit were instrumental in helping to remove the Dalkon Shield from commercial sale.

Paula's many significant accomplishments earned much deserved recognition by her Institute and by the wider community. In 1989, Paula was selected as a UVM 'University Scholar' for her outstanding research and scholarly contributions. In 1996, she was elected to the Vermont Academy of Science and Engineering and in 1999 she was elected President. In 2000, Paula was awarded the Vogelmann Award for Outstanding Research at UVM, and in 2002 she received the Oral Biology Distinguished Scientist Award from the International Association for Dental Research. Paula was elected in 2003 as Fellow of the American Academy of Microbiology. She served two terms on the NIH Oral Biology and Medicine study section (1986–90 and 1995–9) as member and then Chair. Ultimately, she served on the National Advisory Council for the National Institute of Dental Research (1991–4).

Paula was not only a prolific scientist, she was also an outstanding teacher at every level. Teaching came naturally to Paula and she expressed her desire to be a teacher at the early age of three. Paula's childhood was not easy, as she lost her mother at the age of ten and grew up with her sister under the care of an aunt. At age 16, Paula joined the Dominican Convent, and she taught science at elementary and high school levels in many parts of New York City. Teaching became her lifelong passion and she inspired numerous high school students, especially girls, to pursue careers in science. In 1968, she was named the National Science Teachers Association Outstanding Teacher of the Year. Paula eventually left the convent to pursue her Ph.D. degree in 1968, and earned her doctorate at UVM in 1973. Paula joined the UVM Faculty in 1974 and spent her entire teaching and research career there until her retirement in 2007.

Paula's experiences during her years at the convent made a lasting impression on her teaching philosophy, which fueled her passion for teaching at the college level and beyond. She was elected in 1985 by her UVM students as the Medical School Basic Science Teacher of the Year. She was twice an American Society for Microbiology Foundation Lecturer (1990–1 and 1998–2000). In 1999, Paula received the UVM Kidder Outstanding Faculty Mem-

ber Award in recognition of her exceptional teaching ability and passion for mentoring. Paula cared deeply about her students and trainees. She had unwavering faith in them and believed they could do anything they set their minds to, a powerful message that propelled each one of their careers. Paula's indelible legacy in the field of oral microbiology will continue through the work of her students, postdocs and many other trainees.

Paula did not stop working after her retirement. In 2008, she began a successful new career as a hospice volunteer with the same enthusiasm she had for teaching and research. She provided end-of-life support for patients through the Visiting Nurse Association of Chittenden and Grand Isle Counties. In 2012 she was recognized as a Cabot Community Celebrity for her outstanding community service, along with 40 other volunteers from 22 other states.

Paula will be remembered for her founding work in oral microbiology and also for the way she approached her work and life with passion, joy, and a positive attitude. Paula's determination to make a difference in the world began in the days she spent at the convent and continued in her chosen careers thereafter. She will be sorely missed by many who were touched by her during her long teaching, research, and volunteer career.

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