

OBITUARY

Jane M. Olson (December 6, 1952–May 2, 2004)

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Jane Olson passed away on May 2, 2004. Her untimely death is a tragic loss to the field of genetic epidemiology. She is best known internationally for her contributions to advanced statistical methods in genetic epidemiology. Perhaps less well known was her dedication and commitment to mentoring students. She was regarded as an excellent teacher, an outstanding scientist, and a dedicated collaborator.

Jane was born in Concord, New Hampshire, the sixth of seven children. Her father, one of three physicians in town, ran his medical practice from home. Jane obtained

her bachelor's degree (summa cum laude) in 1974, with a major in psychology, from the University of New Hampshire, after which she worked several years as a research assistant in the Biophysics Research Laboratory at Harvard Medical School. Although her original plans were to go to medical school, she started a graduate program in psychology at Wayne State University in 1978, worked for several years as a biostatistician, and eventually entered the graduate program in the Department of Biostatistics at the University of Michigan, obtaining her M.S. in 1988 and her Ph.D. in 1991. At the University of Michigan, she worked with Dr. Michael Boehnke on methodological and applied genetics projects. Her segregation analysis of phenylthiocarbamide, a taste phe-

notype, was nominated for a student award at the 1988 meeting of the American Society of Human Genetics.

Jane spent 3 years as a postdoctoral fellow at the University of Washington, where she developed statistical methods for model-free genetic linkage analysis. In collaboration with her mentor there, Dr. Norman Breslow, she became involved with the National Wilms Tumor Study, and she published three genetic epidemiology papers based on that work. She then spent a year as research assistant professor in the Departments of Biometry and Biomathematics at the State University of New York, Roswell Park Division, before joining the faculty of the Department of Epidemiology and Biostatistics at Case Western Reserve University in 1995.

In 1996, she coauthored a much-cited paper, published in *Nature*, describing the first genetic linkage to Crohn disease and the first use of multipoint-linkage analysis in genetic mapping of a complex disease. At the International Genetic Epidemiology Society meeting in 2001, she received the Best Paper in Genetic Epidemiology award for 2000. She later developed the conditional logistic model for studying linkage from a sample of affected relative pairs. This model parsimoniously includes environmental covariates to allow for gene-environment interaction and successfully showed that *APP* is a candidate locus for late-onset—as well as early-onset—Alzheimer disease. She was coeditor of the Wiley encyclopedia, “Biostatistical Genetics and Genetic Epidemiology.” In addition to articles she wrote for that encyclopedia and the original Wiley publication, “Encyclopedia of Biostatistics,” book chapters, and invited articles, she had 53 published articles and 7 submitted articles at the time of her death.

In her career, Jane was just hitting her stride, having recently been awarded tenure at Case Western Reserve University. In 1996, she was the recipient of a First Independent Research Support & Transition (FIRST) Award from the National Human Genome Research Institute for the development and application of model-free methods of genetic linkage analysis. This grant was successfully renewed in 2001 as an independent investigator (R01) award. Her collaborations on such diseases as systemic lupus erythematosus, intracranial and abdominal aortic aneurysms, diabetic nephropathy, prostate cancer, and Hirschprung disease, as well as those others men-

tioned above, have all greatly benefited from her methodological developments. In addition, many of her statistical innovations remain available to the genetic epidemiology community at large, as part of the S.A.G.E. program package. She was the principal investigator of a multicenter project funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases to study families with fibromyalgia syndrome, a disorder that affects ~2% of the U.S. population and is characterized by widespread pain and accompanying physical and psychiatric symptoms.

Jane’s commitment to her students paralleled that of her commitment to her science. As part of the faculty at Case, she was instrumental in developing a new Ph.D. curriculum in genetic and molecular epidemiology, in which there are currently 25 predoctoral students, 3 postdoctoral students, and 17 graduates of the program. Only a few weeks before her death, she assisted two of her students through their dissertation proposals, despite her recent illnesses. In part, it was this clear demonstration of her dedication to mentoring that prompted three of her students to independently nominate her for the Epidemiology & Biostatistics departmental “Teacher of the Year” award prior to her final hospitalization. At the award ceremony, Emma Larkin, one of her graduate students, pointed out, “Of course she had all the qualities of an exceptional teacher. She was able to break down very complex problems into more simple and understandable concepts. She offered real-life examples in her class and based her lectures on important research papers from the literature. She pushed her students to work hard by providing challenging homework assignments that emphasized important underlying concepts. She demanded that students think critically about the material.”

Jane Olson’s death has been a tragic loss to her family, to all her collaborators and students, to the Department of Epidemiology & Biostatistics at Case, and to the whole genetic epidemiology community. Her extraordinary record of achievements is even more exemplary when one considers the short period of time in which those achievements were accomplished. Jane has left a rich legacy of research in the field of genetic epidemiology, and she inspired a new generation of future scientists. She is survived by her three sisters and three brothers.