To say that William Markesbery was an extraordinary man would be an understatement. When he died last January at the age of 77, Markesbery left a rich legacy as a world-class researcher, clinician and administrator.

In his work, he was dedicated to nothing less than finding a cure for Alzheimer’s disease. Over the years, Markesbery received more NIH grants than any other researcher at UK, and his studies involving Alzheimer’s disease received continuous NIH support for almost 30 years. Markesbery is credited with more than 400 peer-reviewed scientific publications, and he received numerous awards recognizing his work to better understand and prevent Alzheimer’s.

Markesbery graduated with distinction from the UK College of Medicine in 1964. After working at a neurological institute in New York and taking a faculty position at the University of Rochester School of Medicine, he returned to UK in 1972 to begin his longtime career as a researcher and clinician. In 1974, he was the first to describe a rare form of heredity muscular dystrophy, now called Finnish-Markesbery Disease.

In 1981, he led a research team that published the first of several studies to disprove the once-popular theory that an accumulation of toxic metals, such as aluminum, plays a role in the development of Alzheimer’s disease.

William Markesbery: A legacy of distinguished work and great compassion

By Jeff Worley
Alzheimer’s disease. Later, this group proved there was no connection between mercury and Alzheimer’s. In 1991, Markesbery and collaborators published the first of several pioneering studies proving that oxidative stress is an important part of the pathogenesis of Alzheimer’s disease and is present early in the disease. Oxidative stress occurs when cells over-produce oxygen, which causes the release of free radicals and results in cellular degeneration.

Awards for his research followed almost routinely over the years, and in 2009 the Journal of Alzheimer’s Disease ranked Markesbery 23rd among the top researchers in the world for the productivity and impact of their scientific study of Alzheimer’s disease. That year he also received the National Alzheimer’s Association Khachaturian Award for Outstanding Achievements in Advancing Alzheimer’s Science, an honor of which Markesbery was especially proud. “Nothing is quite as rewarding as the recognition of one’s peers,” he said. “I am grateful to have the opportunity to take part in the investigation of the most devastating disease that affects humanity. It has been a privilege to care for individuals with the disease, support the families and, through research, strive to gain a better understanding of Alzheimer’s disease so that one day soon we will learn how to prevent it in those at risk and stop its progression.”

In a 2007 interview, Markesbery talked about what potential victims could do to fight Alzheimer’s disease: “Exercise is important, as is a low-fat diet. Use your mind by participating in book clubs, working with computers, and doing crossword puzzles or other intellectual activities. Exercise your brain.”

When the UK Sanders-Brown Center on Aging opened in 1979, Markesbery was named director of its Alzheimer’s Disease Center. One of 10 original NIH-funded Alzheimer’s Disease Research Centers, Sanders-Brown from its inception has been dedicated to advancing the well-being of the elderly. “Our major goal is to support healthy aging,” Markesbery said. “Sanders-Brown is at the forefront of research on prevention and early diagnosis of dementing diseases and studies on the causes of those diseases, and considerable research efforts are also directed at understanding normal brain aging.”

At Sanders-Brown, Markesbery also became a mentor to a younger generation of scientists working to solve the Alzheimer’s puzzle.

“I began as a postdoc with Bill, and during that time he quickly became a role model as a researcher and teacher,” says Jeffrey Keller, who worked at the center for eight years, becoming an associate professor and assistant director of Sanders-Brown. Keller left two years ago to become director of the Institute for Dementia Research and Prevention at the Pennington Biomedical Research Center in Baton Rouge. “I started this institute and modeled it 100 percent after what Bill did, and he helped a great deal in providing advice for setting things up, and monitoring our progress.”

“Bill was a dedicated scientist who made important contributions towards our understanding of Alzheimer’s disease, and he was also an excellent physician with a great deal of compassion for his patients.” —David Wekstein, former associate director of the Sanders-Brown Center on Aging