Dr. Mary Jeanne Kreek

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THE ROCKEFELLER UNIVERSITY

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Dear colleagues,

It is with great sadness that I share the news that Mary Jeanne Kreek, a beloved colleague and pioneering physician-scientist, passed away last night. Mary Jeanne was the Patrick E. and Beatrice M. Haggerty Professor and Head of the Laboratory of the Biology of Additive Diseases, as well as Senior Physician at the Rockefeller University Hospital. Mary Jeanne was a pioneer in the biology of addiction research and made seminal contributions that led to methadone's successful use as a treatment for heroin addiction. Beyond her scientific endeavors, she was a champion for her patients, often speaking out against the societal stigma they faced. And of course we all know her passion both for Rockefeller and for the breadth of biomedical science. Her unfailing attendance at Friday Lectures and other campus events, punctuated by incisive questions drawn from her long history in biomedicine, as well as her optimism and unwavering support for women in science are qualities we will not forget.

After graduating from Wellesley College, Mary Jeanne earned her MD degree from Columbia University College of Physicians and Surgeons. During her residency in internal medicine at what is now Weill Cornell Medical School, she first set foot on Rockefeller's campus for a research elective in Vincent Dole's lab, who was investigating the potential use of methadone in the treatment of heroin addiction. After residency she moved to Rockefeller in 1964 as an Associate Physician at the Rockefeller University Hospital to pursue these studies on addiction, and performed early studies with both Dole and Marie Nyswander that led to the hypotheses that addiction was a metabolic disorder in which addicts' brains are functionally altered, and that methadone could help mitigate the symptoms of addiction. In 1966, the trio published one of their first landmark papers showing that methadone could be used to fight heroin abuse.

This early success, large as it was, was only the beginning for Mary Jeanne. By the 70s, she had developed the first laboratory techniques for measuring methadone and similar drugs in blood and tissues. This contribution helped make possible the FDA's approval of methadone for opiate addiction. Mary Jeanne's research also facilitated the development of another drug, buprenorphine, which acts on the same receptor in the brain.

Mary Jeanne went on to become one of the first to document how drugs of abuse significantly alter gene expression in certain brain regions, resulting in neurochemical and behavioral changes. Developing animal models for addiction, and identifying many of the genes and biological pathways that act in concert to increase a person's likelihood of suffering from addiction were among Mary Jeanne's accomplishments. In recent years, her lab identified more than 100 genetic changes associated with addiction, some of which were also associated with atypical stress responses, findings that suggest a predisposition to become addicted.

Mary Jeanne has been recognized with numerous awards for her research, including the Betty Ford Award for impact on the field of alcohol and drug abuse in 1996; the Specific Recognition Award for Research in the Science of Addiction from the Executive Office of the President of the United States in 1998; the R. Brinkley Smithers Distinguished Scientist Award from the American Society of Addiction Research, and Nathan B. Eddy Memorial Award from the College on Problems of Drug Dependence, both in 1999; the Wellesley College Alumnae Achievement Award in 2012; and the Lifetime Science Award from the National Institute on Drug Abuse of the National Institutes of Health in 2014. She was the recipient of honorary degrees from Uppsala University, Sweden (2000), the University of Tel Aviv (2007), and the University of Bologna (2010).

In 2017, Mary Jeanne was interviewed for an oral history of her life that included a short film distilled from those interviews, available at this link.

Mary Jeanne will be remembered both for her dynamism as a scientist and her humanism as a physician, patient advocate, and mentor.
Please join me in extending our community's deepest condolences to Mary Jeanne's family. She is survived by her two children: Her daughter Esperance Schaefer, with son-in-law Karl Welday and grandchildren Robert and Francine; and her son Robert Schaefer, with daughter-in-law Heather Fain Schaeffer and grandchildren Meryl and William.
Sincerely,

Rick

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