



American Society for Investigative Pathology
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Rous-Whipple Award - 2001

Marilyn G. Farquhar, Ph.D.



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Marilyn Gist Farquhar, Ph.D., professor and chair of the Department of Cellular and Molecular Medicine at the UCSD School of Medicine, is the winner of the 2001 Rous-Whipple Award from the American Society for Investigative Pathology.

Since the mid-1950s, Farquhar has made a series of significant contributions to the field of Pathology, which nominator Mary F. Lipscomb, Chair of the University of New Mexico School of Medicine Department of Pathology describes as "broadly important" in basic cell biology, experimental pathology, nephrology, and endocrinology. Her work has earned Farquhar membership in the *National Academy of Sciences* and the *American Academy of Arts and Sciences*.

Co-author of more than 250 published papers, Farquhar was one of the few researchers who fully explored the application of the electron microscope to study the pathogenesis of various disease processes. Many novel techniques perfected in Farquhar's laboratory are critical for the analysis of normal and pathologic tissues in laboratories throughout the

In addition to her advances on basic technique, she has driven many breakthroughs in scientific research. Among her major works is the tracking of proteins in the Golgi, and describing the ultrastructure of the kidney glomerulus and defining morphologically the antigenic and structural components of the basement membrane in order to understand glomerular filtration in health and disease. She has applied this ultrastructural expertise to her recent research on identifying the intracellular compartmentalization of signaling molecules, including description of the distribution of alpha and beta gamma subunits of the heterotrimeric G proteins on Golgi membranes.

She has also made an important contribution to the study of glomerular disease by cloning the gp330/megalin gene, which encodes a component of the Heymann nephritis antigenic complex. She also discovered proteoglycans and their functions in glomerular permeability. Other noteworthy advances in her laboratory include the discovery of podocalyxin, ZO-1 in the slit diaphragms of the podocytes, and 'Megalin' perhaps the largest transmembrane protein in the mammalian kingdom.

Dr. Farquhar serves on no fewer than ten editorial boards, including *Molecular Biology of the Cell* and *Journal of Clinical Investigation*. She has been a member of two NIH study sections, and a member of the Board of Councilors of the National Institute of Diabetes, Digestive, and Kidney Diseases.

Seconding the nomination, Dr. Yashpal S. Kanwar, Professor of Pathology and Medicine at Northwestern University, calls Dr. Farquhar "one of the celebrated and world-renowned scientists of the 20th century" whose contributions to cell biology and pathology have been, "as significant as those of Nobel Laureates."

Among Dr. Farquhar's other awards are the Research Career Development Award from NIH, the E.B. Wilson Medal from the American Society of Cell Biology, the Distinguished Scientist Award from EMSA, an NIH MERIT Award, and the Homer Smith Award from the American Society of Nephrology. In 1999, she received the Gomori Award from the International Histochemical Society. She is a charter member and past-president of the American Society for Cell Biology.

Marilyn Farquhar received her A.B. (Zoology), B.A. (Experimental Pathology) and Ph.D. (Experimental Pathology) from the University of California at Berkeley. She received advanced training and performed research at the University of Minnesota, UC San Francisco, and the Rockefeller University. She joined the Yale University School of Medicine in 1973 and did much of her seminal work there, before returning 'home' to California in 1990, where her work continues, focused on understanding the mechanisms of signaling and protein targeting during membrane trafficking.

The Rous-Whipple Award is given to a pathologist over age 50 with a distinguished career in research who is continuing to contribute to the field. Dr. Farquhar will receive a cash award and a plaque, and has been invited to present a lecture at the 2001 ASIP meeting.