

DR. DOLORES C. SHOCKLEY LECTURE AND PARTNERSHIP AWARD

Dolores C. Shockley, Ph.D., Professor Emerita at Meharry Medical College, has the distinction of being the first African American woman in the nation to receive a Ph.D. in Pharmacology and the first to Chair a Department of Pharmacology at an accredited medical school.

Dr. Shockley's research focused on the chemical compounds to treat stimulant dependency and overdose. As Chair of the Department of Pharmacology at Meharry in the late 1980s and into the 1990s, she worked closely with Dr. Lee Limbird to unite students at Meharry Medical College and Vanderbilt University Medical Center. Together, they developed several joint programs, including monthly student seminars on both campuses. These interactions continue today with a joint Pharmacology scientific retreat each spring that inspires collaboration and continued reciprocal mentoring.

Recipients of the Dr. Dolores C. Shockley Lecture and Partnership Award are recognized for their involvement in partnerships that foster minority scientist career development. The Department of Pharmacology at Vanderbilt University Medical Center is proud to host this award.



SPONSORED BY: DEPARTMENT OF PHARMACOLOGY
DR. DOLORES C. SHOCKLEY LECTURE AND PARTNERSHIP AWARD

JAMES E. K. HILDRETH, M.D., PH.D.

HIV-1: LIMITED GENOME, UNLIMITED BIOLOGICAL COMPLEXITY –
MECHANISMS AND IMPLICATIONS

MAY 23, 2013
4:00 P.M.
208 LIGHT HALL



HIV-1: LIMITED GENOME, UNLIMITED BIOLOGICAL COMPLEXITY –
MECHANISMS AND IMPLICATIONS

Human immunodeficiency virus (HIV) is the etiological agent of acquired immunodeficiency syndrome (AIDS) and currently infects more than 30 million people worldwide. Infection by this virus results a complex disease involving immunodeficiency but also other pathogenic changes in other organ systems. The complexity of HIV biology at the molecular, cellular and system levels belies the small size of the viral genome. Our work has focused on understanding how HIV hijacks cellular factors and systems and utilizes them to its own benefit. A major goal of our current work is understanding how cholesterol and cellular cholesterol homeostasis contribute to the biology of the virus. We are also interested in exploiting this aspect of HIV biology to develop novel therapeutic and prophylactic approaches to controlling the spread of the virus. Another related area of interest is in virus co-infections in which HIV exploits the proteins of other co-infecting viruses to promote its own transmission. We are evaluating the ability of HIV to acquire attachment proteins of other viruses to expand its cellular tropism or tissue specificity. Its ability to do so has profound implications for sexual transmission of the virus and our ability to successfully develop vaccines and microbicides.



JAMES E. K. HILDRETH, M.D., PH.D.

DEAN OF COLLEGE OF BIOLOGICAL SCIENCES

PROFESSOR OF MOLECULAR AND CELLULAR BIOLOGY
AND INTERNAL MEDICINE
UNIVERSITY OF CALIFORNIA AT DAVIS

MEMBER, INSTITUTE OF MEDICINE

Dr. Hildreth is currently Dean and Professor of Molecular and Cellular Biology and Professor of Internal Medicine at the University of California, Davis. Dr. Hildreth's research has focused on host factors in HIV pathogenesis. His laboratory was the first to identify the role of cholesterol-rich lipid rafts as the sites for retrovirus assembly and release. This observation led to studies on the role of cholesterol in HIV biology. Recent studies in his laboratory have identified a direct link between HIV transcription and cholesterol homeostasis. Dr. Hildreth's laboratory is currently working to exploit the critical requirement for cholesterol in HIV biology as a platform for therapeutic and prophylactic approaches to limit HIV spread. Dr. Hildreth was formerly Director of the Center for AIDS Health Disparities Research and Professor of Medicine at Meharry Medical College. He also served as Associate Director of the Vanderbilt-Meharry Center for AIDS Research. Dr. Hildreth obtained his undergraduate degree in Chemistry, *magna cum laude*, from Harvard University. He attended Oxford University as a Rhodes Scholar where he obtained a Ph.D. in Immunology. He then completed his M.D. degree at Johns Hopkins School of Medicine. Dr. Hildreth has received numerous awards and is a member of the Institute of Medicine, part of the National Academies. Dr. Hildreth has published more than 100 scientific articles and is inventor on 13 patents related to his research. He has mentored numerous Ph.D. students and fellows and has engaged in efforts related to diversity in science throughout his career.
