

The Vanderbilt Prize in Biomedical Science, established in 2006, honors women who have made significant advances in the biological and biomedical sciences and who have contributed positively to the mentorship of other women in science.

Vanderbilt Prize winners receive a \$25,000 award and serve as mentors to women who are pursuing graduate studies in the biomedical sciences at the School of Medicine. This year's Vanderbilt Prize Student Scholar will be announced during the Discovery Lecture.

THE
Flexner
DISCOVERY
LECTURE SERIES

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RECIPIENTS OF THE VANDERBILT PRIZE IN BIOMEDICAL SCIENCE

2012

Joan Steitz, Ph.D.
Yale University

2011

Titia de Lange, Ph.D.
Rockefeller University

2010

Nancy C. Andrews, M.D., Ph.D.
Duke University School of Medicine

2009

Susan S. Taylor, Ph.D.
University of California, San Diego
Howard Hughes Medical Institute

2008

Ann M. Graybiel, Ph.D.
Massachusetts Institute of Technology

2007

Elizabeth Blackburn, Ph.D.
University of California, San Francisco
2009 Nobel Laureate

2006

Nancy Andreasen, M.D., Ph.D.
University of Iowa College of Medicine

VANDERBILT PRIZE WINNER

JOAN STEITZ, PH.D

NONCODING RNAS: WITH A VIRAL TWIST.

MAY 2, 2013
4:00 P.M.
208 LIGHT HALL

VANDERBILT  UNIVERSITY
MEDICAL CENTER

NONCODING RNAs: WITH A VIRAL TWIST

Dr. Steitz's lecture concerns the diversity and habit of viruses to acquire components from their host cells, utilizing them in unanticipated ways to enhance their life cycle. Particular reference will be made to noncoding Ribonucleic Acids (RNAs) of gamma herpes viruses, to mechanisms of RNA stability and microRNA function, shedding light on the evolution of viruses and their host organisms.



JOAN STEITZ, PH.D.

**PROFESSOR OF MOLECULAR BIOPHYSICS
AND BIOCHEMISTRY
YALE MEDICAL CENTER**

**INVESTIGATOR
HOWARD HUGHES MEDICAL INSTITUTE**

Steitz earned her BS in chemistry from Antioch College in 1963. Significant findings from her work emerged as early as 1967, when her Harvard PhD thesis with Jim Watson examined the test-tube assembly of a ribonucleic acid (RNA) bacteriophage (antibacterial virus) known as R17.

Steitz spent the next three years in postdoctoral studies at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England, where she used early methods for determining the biochemical sequence of RNA to study how ribosomes know where to initiate protein synthesis on bacterial mRNAs. In 1970, she was appointed assistant professor of molecular biophysics and biochemistry at Yale, becoming full professor in 1978. At Yale, she established a laboratory dedicated to the study of RNA structure and function. In 1979, Steitz and her colleagues described a group of cellular particles called small nuclear ribonucleoproteins (snRNPs), a breakthrough in understanding how RNA is spliced. Subsequently, her laboratory has defined the structures and functions of other noncoding RNPs, such as those that guide the modification of ribosomal RNAs and several produced by transforming herpesviruses. Today, her studies of noncoding RNAs include microRNAs.

Steitz is an investigator of the Howard Hughes Medical Institute, a member of the American Academy of Arts and Sciences, American Philosophical Society, National Academy of Sciences, and the Institute of Medicine. Her many honors include the U.S. Steel Foundation Award in Molecular Biology (1982), National Medal of Science (1986), Lewis S. Rosenstiel Award (2002), FASEB Excellence in Science Award (2003), RNA Society Lifetime Achievement Award (2004), E.B. Wilson Medal (2005), Gairdner Foundation International Award (2006), Albany Medical Center Prize in Medicine and Biomedical Research (2008) [shared with Elizabeth Blackburn], Harden Jubilee Medal, British Biochemical Society (2009), Robert J. and Claire Pasarow Foundation 23rd Annual Medical Research Award for Extraordinary Achievement in Cancer Research (2011), and Pearl Meister Greengard Prize (2012). She is the recipient of 16 honorary degrees.
