

# The Twentieth Irving L. Schwartz Lectureship in Structural and Chemical Biology

November 19, 2020

## Joan A. Steitz, PhD

Sterling Professor, Molecular Biophysics and Biochemistry,  
Yale University School of Medicine  
Investigator, Howard Hughes Medical Institute

### ***“Viral Noncoding RNAs: Approaching Answers”***

Thursday, November 19, 2020  
11:00 am

Virtual Lecture

<https://mssm.zoom.us/j/85433410063>

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## FOLLOWING THE LECTURE

### **Roundtable Discussion**

Private event for investigators  
1:00 - 1:45 pm

### **Career Session hosted by DPS Student and Postdoc Assn.**

Public event for trainees, registration required  
<https://forms.gle/YRtpKUAarvb6iCr5A>  
2:00 - 2:45 pm

### ***“Just Desserts”* hosted by the Office for Women’s Careers**

Event geared towards women in science  
To RSVP please email [wism@mssm.edu](mailto:wism@mssm.edu)  
3:00 - 3:45 pm



## Joan A. Steitz, PhD

Dr. 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.

Dr. 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, Dr. 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, microRNAs and several produced by transforming herpesviruses.

Dr. 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 Institute of Medicine. Her many honors include the U.S. Steel Foundation Award in Molecular Biology (1982); National Medal of Science (1986); FASEB Excellence in Science Award (2003); RNA Society Lifetime Achievement Award (2004); Gairdner Foundation International Award (2006); Albany Medical Center Prize in Medicine and Biomedical Research (2008) [shared with Elizabeth Blackburn]; Pearl Meister Greengard Prize (2012); La grande médaille 2013 de l'Académie des sciences, Institut de France; Foreign Member of the Royal Society of London (2014); Herbert Tabor Award, American Society of Biochemistry and Molecular Biology (2015); Biopolymers Murray Goodman Memorial Prize, American Chemical Society (2015); William Clyde DeVane Award for Teaching Excellence, Yale University (2016); Jonathan Kraft Prize for Excellence in Cancer Research (2016); ASCB Inaugural Fellow (2016); and Lasker-Koshland Special Achievement Award in Medical Science, the Albert and Mary Lasker Foundation (2018). Dr. Steitz has been awarded 19 honorary degrees.



**Irving L. Schwartz, MD**  
(1918-2011)

Dr. Schwartz was the first Dean of the Mount Sinai Graduate School of Biological Sciences from 1965 to 1980 when he became Dean Emeritus. He was also the founding chairman of the Department of Physiology and Biophysics (currently the Department of Pharmacological Sciences) and the Lamport Distinguished Professor until his retirement in 1989.

Under Dr. Schwartz's early leadership, Mount Sinai grew as a center of excellence in translational research. He believed in the "vital interdisciplinary interactions among clinicians, basic scientists, medical students, and graduate students within one institution." Dr. Schwartz's interests in biomedical research and education were far reaching, addressing fundamental problems of body fluid regulation, secretory phenomena and neurophysiology. His work, originally in whole animal and organ physiology, evolved over the years to the cellular level, and ultimately to the molecular level. He had a major interest in the function of neurohypophyseal and other peptides. His studies on peptides ranged from bedside observations, to biochemical mechanisms of action, to the definition of three-dimensional structure of such molecules in solution as well as in the crystalline state. The work of his group on the molecular conformation of hormones in solution pioneered structure-function analysis based on the tertiary structure of molecules.

In Honor of  
**IRVING L. SCHWARTZ**  
Scientist, scholar, teacher, physician

1993	Albert J. Hudspeth, MD, PhD University of Texas-Southwestern Medical Center	2008	Stuart L. Schreiber, PhD Harvard University The Broad Institute of Harvard & MIT Howard Hughes Medical Institute	2014	Joachim Frank, PhD* Columbia University Howard Hughes Medical Institute
1995	Charles F. Stevens, MD, PhD The Salk Institute	2009	Michael G. Rosenfeld, MD University of California, San Diego Howard Hughes Medical Institute	2015	Wayne A. Hendrickson, PhD Columbia University
1998	Wayne L. Hubbell, MD, PhD University of California at Los Angeles	2010	Klaus Schulten, PhD University of Illinois Urbana-Champaign	2016	Jennifer Dounda, PhD* University of California, Berkeley Howard Hughes Medical Institute
2000	Richard N. Bergman, PhD University of Southern California	2011	Kevan Shokat, PhD University of California, San Francisco Howard Hughes Medical Institute	2017	Stephen W. Fesik, PhD Vanderbilt University School of Medicine
2005	Stephen C. Harrison, PhD Harvard Medical School	2012	Tony Hunter, PhD The Salk Institute for Biological Studies	2018	Thomas R. Cech, PhD* University of Colorado Howard Hughes Medical Institute
2006	Roger D. Kornberg, PhD* Stanford University	2013	David E. Shaw, PhD D. E. Shaw Research Columbia University	2019	David Baker, PhD University of Washington Howard Hughes Medical Institute

\* The Nobel Prize Winner