

## DR. ALLAN D. BASS (1910-2005)

Allan D. Bass was Professor and Chairman of the Department of Pharmacology at Vanderbilt University School of Medicine from 1953 until 1973. He served as Associate Dean for Biomedical Sciences from 1973 until his retirement in 1975.

Dr. Bass was nationally recognized as an outstanding administrator, scientist, and educator. He participated actively in many national societies, including The American College of Physicians, American Society for Pharmacology and Experimental Therapeutics (President, 1967 to 1969) and the American Medical Association Council on Drugs (1962 to 1972).

Dr. Bass's own scientific research spanned more than four decades and included more than 66 articles and abstracts. Early on, he concentrated on developing new anthelmintics and on skin sterilizing agents. Later, he investigated the mechanisms of sulfonamide action and cellular mechanisms involved in endocrine pharmacology. Additional work focused on adrenal corticosteroids, hormones, and chemical transmitters.

Dr. Bass was responsible for the development of Vanderbilt's Department of Pharmacology from a relatively small entity to a program that has achieved national recognition. As an educator, Dr. Bass always made every effort to assist each student to reach his or her academic potential and to meet professional requirements. Predoctoral and postdoctoral students who trained in pharmacology during Dr. Bass' tenure as chairman now reside throughout the nation and several foreign countries and many have held leadership positions in academia, government and the pharmaceutical industry.

The Allan D. Bass Lectureship, established in 1977, celebrates scientific inquiry and communication. The program is made possible through the generosity of the Bass family, as well as colleagues in the scientific community, present and former students and faculty members at Vanderbilt University and the Vanderbilt Department of Pharmacology. Continuing support by alumni and friends is essential to the success and vitality of our training and research programs. If you would like to support this program, or others like it in the Department of Pharmacology, you can find on-line giving access on our web site, [www.vanderbilt.edu/pharmacology](http://www.vanderbilt.edu/pharmacology).

### PREVIOUS ALLAN D. BASS LECTURERS INCLUDE:

1977 Avram Goldstein  
1979 James R. Gillette  
1981 James A. Miller  
1981 Elizabeth C. Miller  
1983 Norman Weiner  
1985 Elliot S. Vesell  
1987 Richard W. Tsien  
1989 John R. Blinks

1993 Roger A. Nicoll  
1995 David E. Clapham  
1998 Phillip Needleman  
2003 Susan S. Taylor  
2005 Morgan Sheng  
2007 Brian K. Kobilka  
2009 Xiaodong Wang



SPONSORED BY:  
DEPARTMENT OF PHARMACOLOGY  
ALLAN D. BASS ENDOWED LECTURE SERIES

---

**THOMAS C. SÜDHOF, M.D.**  
PHYSIOLOGY AND PATHOLOGY OF NEUROTRANSMITTER RELEASE

---

DECEMBER 13, 2012  
4:00 P.M.  
208 LIGHT HALL

VANDERBILT  UNIVERSITY  
MEDICAL CENTER

PHYSIOLOGY AND PATHOLOGY OF  
NEUROTRANSMITTER RELEASE

---

Thomas Südhof is interested in how synapses are formed and function during development and in the adult. His work focuses on the role of synaptic cell-adhesion molecules in shaping synapse properties, on pre- and postsynaptic mechanisms of membrane traffic, and on impairments in synapse formation and function in neuropsychiatric disorders. To address these questions, Dr. Südhof's laboratory employs approaches ranging from biophysical and biochemical studies to the physiological and behavioral analyses of mutant mice and the *in vitro* derivation of human neurons.



---

**THOMAS C. SÜDHOFF, M.D.**

**AVRAM GOLDSTEIN PROFESSOR OF MOLECULAR  
AND CELLULAR PHYSIOLOGY  
STANFORD UNIVERSITY SCHOOL OF MEDICINE  
MEMBER, INSTITUTE OF MEDICINE  
MEMBER, NATIONAL ACADEMY OF SCIENCES  
HOWARD HUGHES MEDICAL INSTITUTE  
INTERNATIONAL INVESTIGATOR**

---

Dr. Südhof, a native of Germany, obtained his M.D. degree from the University of Göttingen in 1982, and performed the work for his doctoral thesis at the Max-Planck-Institut für biophysikalische Chemie in Goettingen under the direction of Prof. Victor P. Whittaker. From 1983-1986, Dr. Südhof trained as a postdoctoral fellow with Drs. Brown and Goldstein at the Department of Molecular Genetics at UT Southwestern, and elucidated the structure, expression and regulation of the LDL receptor gene. Subsequently, Dr. Südhof served on the faculty of UT Southwestern in Dallas until 2008, where he was the founding chair of the Department of Neuroscience. Since 2008, Dr. Südhof is the Avram Goldstein Professor in the School of Medicine at Stanford University. Dr. Südhof has also been an Investigator of the Howard Hughes Medical Institute since 1986. Dr. Südhof's research interests focus on the molecular mechanisms underlying synapse function, in particular on how synapses form, how they transmit signals from one neuron to the next, and how they become abnormal during diseases such as Alzheimer's disease and autism spectrum disorders. His studies have identified key molecules in synapses, such as synaptotagmins, RIMs, Munc13s, Munc18s, complexins, neuexins, and neuroligins, and others. Moreover, his laboratory has demonstrated that synaptotagmins function as the calcium sensors for neurotransmitter release at synapses in complexin-dependent manner, that RIMs function as central organizers of active zones that recruit the Munc13 priming factors and calcium-channels to active zones, and that neuexins, neuroligins, and LRRTMs function as the central trans-synaptic cell adhesion molecules at synapses that organize the assembly of synapses into signaling machines. Dr. Südhof is a member of the National Academy of Sciences, the Institute of Medicine, and the American Academy of Arts and Sciences, and has won several awards for his work, most recently the Kavli Award in Neuroscience.

---