THE

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# DISCOVERY

LECTURE SERIES

## RUSS B. ALTMAN, M.D., Ph.D

KENNETH FONG PROFESSOR OF BIOENGINEERING,
GENETICS, MEDICINE AND, BY COURTESY,
OF COMPUTER SCIENCE

FEBRUARY 6, 2014
4:00 P.M.
208 LIGHT HALL

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*Flexner*

# DISCOVERY

LECTURE SERIES

VANDERBILT V UNIVERSITY
MEDICAL CENTER

Pharmacogenomics is the study of how genetic variation influences drug response. We are building the PharmGKB resource (pharmgkb.org) to organize the world's knowledge of pharmacogenomics. Central to this mission is understanding the molecular mechanisms of drug response--the genes that are involved in the pharmacokinetics and pharmacodynamics of drug response. Our laboratory has developed informatics methods at the molecular, cellular, and organismallevel for linking genes to drug response, and for better characterizing the full set of responses to drugs individually and in combination. The growing volume of data at all scales creates a "big data" opportunity for transforming our understanding of how drugs work, and how to best use them in clinical practice.

## RUSS B. ALTMAN, M.D., PH.D.

**KENNETH FONG PROFESSOR OF BIOENGINEERING, GENETICS, MEDICINE AND, BY COURTESY, OF COMPUTER SCIENCE**

Russ Biagio Altman is a professor of bioengineering, genetics, and medicine (and of computer science, by courtesy) and past chairman of the Bioengineering Department at Stanford University. His primary research interests are in the application of computing and informatics technologies to basic biological problems relevant to medicine. He is particularly interested in methods for understanding drug action at molecular, cellular, organism and population levels. His lab studies how human genetic variation impacts drug response (e.g. pharmgkb.org). Other work focuses on the analysis of biological molecules to understand the action, interaction and adverse events of drugs. He leads one of seven NIH-supported National Centers for Biomedical Computation, focusing on physics-based simulation of biological structures. Dr. Altman holds an A.B. from Harvard College, and M.D. from Stanford Medical School, and a Ph.D. in Medical Information Sciences from Stanford. He received the U.S. Presidential Early Career Award for Scientists and Engineers and a National Science Foundation CAREER Award. He is a fellow of the American College of Physicians, the American College of Medical Informatics, and the American Institute of Medical and Biological Engineering. He is a member of the Institute of Medicine of the National Academies. He is a past-president, founding board member, and a Fellow of the International Society for Computational Biology, and the President-Elect of the American Society for Clinical Pharmacology & Therapeutics. He currently chairs the Science Board advising the FDA Commissioner. He is an organizer of the annual Pacific Symposium on Biocomputing, and a founder of Personalis, Inc. He won the Stanford Medical School graduate teaching award in 2000.