ROGER J. LEWIS, M.D., Ph.D.
BAYESIAN ADAPTIVE PLATFORM CLINICAL TRIALS: A RESEARCH PARADIGM

JANUARY 4, 2018
4:00 P.M.
208 LIGHT HALL

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VANDERBILT CENTER FOR QUANTITATIVE SCIENCES

Upcoming Discovery Lecture:

BRUCE GELB, M.D.

Gogel Family Professor and Director, Mindich Child Health and Development Institute
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February 8, 2018
208 Light Hall / 4:00 P.M.
The traditional approach to clinical trial design often requires assuming precise values for multiple unknown parameters, resulting in a trial design that is unlikely to perform well if one or more of the key parameters turn out to be quite different. During conduct, trial characteristics are often held fixed, even if incoming data suggest that one or more design assumptions were incorrect. This leads to an increased risk of a failed trial. In contrast, an adaptive clinical trial is designed to take advantage of partial, incoming data during the conduct of the trial, modifying key clinical trial characteristics according to prespecified rules, in order to avoid a failed or inconclusive trial, improve statistical efficacy, better treat patients within the trial, or achieve other scientific or ethical goals. The concept of an adaptive trial can be expanded to a platform trial, a clinical trial that is intended to evaluate multiple treatments or combinations of treatments, often for patients with any group of related diseases, and to continue beyond the evaluation of any particular treatment. Platform trials are ongoing or under development in a broad range of clinical areas, in the US and Europe and Asia, supported by government agencies, foundations, and industry. Design of an adaptive platform trial requires a qualitatively different research paradigm, with the focus shifted from the evaluation of each treatment to finding the best treatment for each disease. Multiple examples of Bayesian adaptive platform trials will be presented, both ongoing and currently under development, to illustrate the diversity and volume of research activity using this approach.