

COLLOQUIUM

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Changepoint Alternatives to the NOAEL

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Date: **April 5, 2002 (Friday)**
Time: **2:30-3:30PM**
Place: **LeConte College Room 210A**

Refreshments: 3:30-4:00 LC 213

Abstract

The No Observed Adverse Effect Level (NOAEL) is still used in many cases for the purposes of toxicological risk assessment despite its bad statistical properties. The idea of a dose threshold which underlies the use of the NOAEL remains popular even in the face of recent developments in the area of benchmark doses. For continuous responses, a changepoint dose response model is developed which incorporates thresholding concepts. Procedures to obtain an estimate of the changepoint and a lower confidence limit for this threshold are developed. The mathematical properties of these procedures are then discussed. Finally, the statistical properties of the estimates and lower confidence limits obtained from this model are then compared to the NOAEL approach through a large simulation study and for an example data set.

About the Speaker: Dr. R. Webster West is currently Associate Professor in the Department of Statistics, USC. He joined USC in 1994 after obtaining his PhD from Rice University. His research interests are in computational and graphical statistics, toxicological risk assessment, stochastic modeling, changepoint problems, mathematical statistics, and biostatistics. He recently founded, and is currently CEO, of Integrated Analytics LLC. He co-developed WebStat with T. Ogden and was the developer of DoStat.