

STATISTICS COLLOQUIUM

MONDAY, OCTOBER 30, 2006

TALK: 4:00 PM — SCIENCE CENTER B-10

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

“On Statistical Problems Arising in the Legal Setting”

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ABSTRACT

Ever since the U.S. Supreme Court adopted the use of hypothesis testing to assess the fairness of employers' hiring practices and the adequacy of minority representation on juries, statistical and probabilistic reasoning has played an increasingly important evidentiary role in many types of cases. The first problem that will be discussed concerns the court's interpretation of a statutory formula that is used to assess whether per-pupil expenditures in a state are distributed equally. The talk will begin by asking the attendees to interpret a slightly simplified version of the law given at the end of the abstract. After our discussion of the formula and its calculation, the court's approach to deciding its meaning will be described along with the speaker's views and statistical criticism of the formula and its implementation. The second topic will concern statistical issues that arose in a securities law case. After summarizing the case and an analysis the hearing panel found reasonable, we will discuss a new test of normality and corresponding graphical display which grew out of the need to “explain” the results of such a “goodness of fit test” to a lay panel. If time permits, a related test of “symmetry” and its statistical properties will be described.