

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, February 10, 2004
Sequoia Hall Room 200
(Cookies at 3:45 in 1st Floor Lounge)

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How tall must trees be to fill the sky?

Abstract:

Is there a forest with the following two properties? 1. The average height of the trees in that forest is 30 feet. 2. After raising the level of soil in the forest uniformly by one foot the forest still looks the same as before. In particular, the average height of the trees is still 30 feet.

The answer is "yes" iff the dimension of the space is at least 3, as we show in recent joint work with M. Bramson and O. Zeitouni. We shall use such a forest to construct an example of a random environment in which a random walk disobeys a certain 0-1 law. This is closely related to several open problems in the area of random walks in random media.