1100-26-99   **Pieter C Allaart*** (`allaart@unt.edu`), Mathematics Department, 1155 Union Circle #311430, Denton, TX 76203-5017. *Zero sets and maximum sets of randomized Takagi functions.*

Takagi's continuous but nowhere differentiable function is defined by

$$T(x) = \sum_{n=0}^{\infty} \frac{1}{2^n} \phi(2^n x),$$

where $\phi(x)$ is the distance from x to the nearest integer. In this talk we examine two natural schemes for multiplying the terms in the above series by random signs (while preserving continuity of the limit function). Several results will be presented regarding the set of maximum points and the zero set of the resulting randomized Takagi function. These sets tend to be random fractals, and their almost-sure Hausdorff dimension is of particular interest. This topic offers many opportunities for further research, so the talk will end with a list of open problems. (Received February 02, 2014)