How Knowledge Propagates? A Fractal Model Justified on the Example of the Out of Eden Walk

Octavio Lerma[1,2], Leobardo Valera[2],
Deana Pennington[2], and Vladik Kreinovich[1,2]
[1]Computational Science Program
[2]Cyber-ShARE Center
University of Texas at El Paso
El Paso, TX 79968, USA
lolerma@episd.org, leobardovalera@gmail.com
ddpennington@utep.edu, vladik@utep.edu

Most quantitative models of knowledge propagation use a system of differential equations. In such models, after a certain period of time, the number of new people getting a certain knowledge (or acquiring a certain skill) decreases exponentially with time. Some experiments show, however, that in many case, a slower "fractal" power law better describes the actual knowledge propagation. In this talk, we analyze which model is better, on the example of responses to Out of Eden Walk dispatches – a project in which a Pulitzer Prize-winning journalist Paul Salopek is reporting from different locations around the world. These observations confirm the fractal model.