



THE UNIVERSITY OF
CHICAGO

Department of Statistics
STATISTICS COLLOQUIUM

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Snowflakes, slot machines, Chinese dragons, and QLE

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Eckhart 133, 5734 S. University Avenue
Refreshments following the seminar in Eckhart 209.

ABSTRACT

What is the right way to think of a "random surface" or a "random planar graph"? How can one explain the dendritic patterns that appear in snowflakes, coral reefs, lightning bolts, and other physical systems, as well in as toy mathematical models inspired by these systems? How are these questions related to random walks and random fractal curves (in particular the famous SLE curves)?

To begin to address these questions, I will introduce and explain the "quantum Loewner evolution," which is a family of growth processes closely related to SLE. I will explain through pictures and animations and some discrete arguments how QLE is defined and what role it might play in addressing the questions raised above. This is a collaboration with Jason Miller.