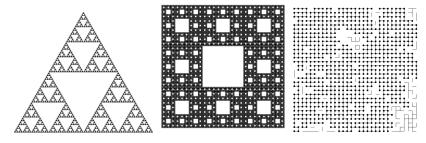
## Joe P. Chen, Mathematics Scaling limits of particle systems on nonsmooth spaces



## Questions:

- How does a random walker move inside each of these labyrinths?
- What about many interacting random walkers?

 ${\sf Calculus} \ on \ nonsmooth \ spaces \Leftrightarrow {\sf Markov} \ chains/processes$ 

+ Limit theorems (law of large numbers, central limit theorem).

*Physical applications:* Heat diffusion, wave propagation, hydrodynamics (of charged particles or of fluids), quantum field theory (path integrals).

Biological applications: Cluster growth models, gene network modeling.

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