Departments of Statistics and Mathematics

BILLINGSLEY LECTURES ON PROBABILITY

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"Interface dynamics and conformal maps"

THURSDAY, May 5, 2022, at 4:30 PM

Kent 120, 1024 East 58th Street

Reception following the seminar at 5:30 PM, in Eckhart 209, 5734 S. University Avenue

ABSTRACT

A range of phenomena in nature can be modelled as a monotone evolution of an interface in the plane, with the dynamics being in some way related to harmonic measure. Examples include (deterministic) Hele-Shaw flow and (random) aggregation models such as DLA. While such models are often very hard to analyze, some progress has been achieved for simplified models using conformal maps and the Loewner differential equation. I will survey some of the models, tools, and results along with open questions. Based in part on joint works with Amanda Turner (Lancaster) and Alan Sola (SU) and with Yilin Wang (MIT).

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