Local convergence in t-PNG
(joint with Ruby Bestwick, Artem Borisov, Elnur Emrah, and Jessica Jay)

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The model I will consider is a version of the Polynuclear Growth Model (PNG). PNG describes unit-speed nucleations emerging from randomly positioned seeds in space-time. Upon meeting each other, these nucleations cease to grow, but other nucleations will still emerge from further space-time seeds. The model is also closely connected to the problem of longest increasing subsequences in random permutations. PNG is a prominent member of the KPZ universality class of growth models, named after the famous Kardar-Parisi-Zhang equation. Models in this class feature strong interactions that make them difficult to handle, and alter the classical 1/2-power scaling and Gaussian limit laws to 1/3-power scalings and limit distributions known from random matrix theory.

The t-PNG variant I will consider flips a coin every time nucleations meet, and only stops these growing with probability 1-t. With the remaining t probability a new nucleation is started instead, and this makes the analysis of the model more difficult than classical PNG. I will explain a stationary scenario for this version due to Drillick and Lin, and describe our result which is local convergence to this stationarity. Some non-trivial coupling arguments were necessary, which I will explain in the talk.