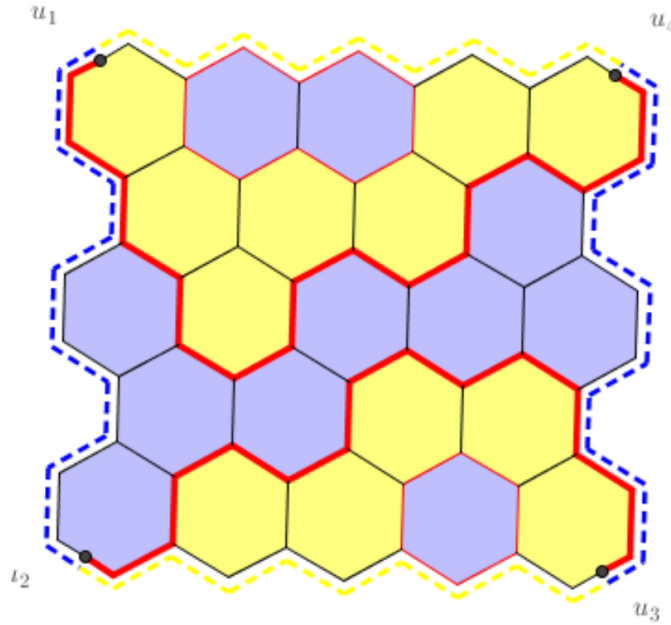


Conformal Invariance of Face Percolation on the Hexagonal Lattice

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The last century of statistical physics has profoundly influenced our understanding of random geometry and stochastic analysis. We will take a tour of the most studied models and seminal works with a focus on Stanislav Smirnov's proof of the conformal invariance of site percolation on the triangular lattice. A miraculous proof that won him the Fields medal, establishing the universal scaling limit for percolation: Schramm-Loewner Evolution.

This is a second of a series of three talks. We will overview Smirnov's proof of conformal invariance with a highlight on the loop $O(1)$ model and ideas of discrete holomorphicity.