Scaling limits of uniform spanning trees and forests

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In two and three dimensions, the scaling limit of the uniform spanning tree of Z^d is a measured, rooted spatial tree, and its embedding in R^d fills the space. For these integer lattices and high-dimensional finite graphs, the proofs of the existence of the corresponding limit trees rely on Wilson's algorithm. The situation is different in Z^d for d ≥ 5. In this case, the infinite-volume limit of uniform spanning trees of finite subgraphs is the uniform spanning forest (USF) with, almost surely, infinitely many trees. Sampling with Wilson's algorithm, one builds different trees simultaneously. Hence, studying the scaling limit of one tree in the USF requires a different approach. This talk will present recent advances in this direction for the USF of Z^d d ≥ 5, based on ongoing joint work with Tom Hutchcroft.