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The Abelian Sandpile and Circle Packings  

THURSDAY, March 1, 2018, at 5:00 PM  
Jones 226, 5747 South Ellis Avenue  

ABSTRACT  

The Abelian sandpile is a simple and deterministic diffusion process on graphs, devised as a model of self-organized criticality by Bak, Tang, and Weisenfeld. The scaling limit of the sandpile on a periodic graph is a nonlinear elliptic partial differential equation with complicated algebraic structure. I will discuss the sandpile, the algebraic structure of its scaling limit, and the fractal pictures it produces.