

## Mathematics Computer Science Seminar

### *Diffusion on Graphs*

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**Abstract:** Diffusion on a graph  $G$  is a cellular automaton describing how integer labels on the vertices of  $G$  evolve. We view the label of a vertex as the number of chips at that vertex, and at each step, each vertex simultaneously sends one chip to each of its neighbours with fewer chips. What can we say about the trajectories of various initial configurations in this process? Here's an amuse bouche: this firing rule may generate negative labels when started from a completely positive initial configuration, so it is not clear, a priori, if one must even have periodic behaviour necessarily!

Wednesday, February 21 at 3:00 PM in SEO 427