

Stanford Department of Mathematics Colloquium

Fair allocations to random points, using the stable marriage algorithm, Riemann mapping theorem, and Newtonian gravity

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Microsoft

Abstract

Given an infinite collection of points in the plane (a point process), how do we allocate the same area to each point in a decentralized, shift-invariant way? Different approaches to this problem have connections with probability, combinatorics, ergodic theory, the Riemann mapping theorem, and Newtonian gravity (in higher dimensions); see the gallery at <http://www.math.ucdavis.edu/~romik/home/Allocations.html> but there is lots of room for new creative ideas.

This exposition of the topic will be based on work of the speaker as well as C. Hoffman, A. Holroyd, S. Chatterjee, R. Peled, D. Romik and M. Krikun.

Thursday, October 15
4:15 p.m.
Bldg. 380, Room 380-W.

<http://math.stanford.edu/coll/0910/>