Seminar on Combinatorial Computing
May 9, 2007, Wednesday, 6:30 p.m.
Room 6417, Graduate Center
365 Fifth Avenue, New York

Squares!

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Abstract

In this talk we present several results and open problems gathered from several papers, having squares, the basic geometric entity, as a common thread. We first discuss the existence of perfect matchings for sets of points in the plane by means of geometric objects, i.e., to cover the points in pairs using objects in a class, for example with isothetic squares.

Second, we consider the transformation of finite binary images by moving black pixels one by one to an empty 8-neighboring position, while keeping prescribed connectivities in both the foreground and the background.

Finally, we will present a result on translating a set of colored disjoint convex objects in the plane, in such a way that in their final positions they are well separated.

Joint work with Bernardo Abrego, Esther Arkin, Prosenjit Bose, Vida Dujmovic, Silvia Fernandez, Mikio Kano, Pat Morin, Joseph Mitchell and Jorge Urrutia.

For further information contact Janos Pach at pach@cims.nyu.edu, or visit our website
http://www.math.nyu.edu/p̃ach/public_html/combinatorics_seminar.html