DEPARTMENT OF PHYSICS AND ASTRONOMY
and
DEPARTMENT OF MATHEMATICS

Topology-Physics Seminar Series

Dancing spheres and diffeomorphisms of 4-dimensional space

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I don't know much physics so I'll try to give a physicist-friendly presentation of some topology I've been working on over the last few years. The goal is to understand self-diffeomorphisms of R^4 up to isotopy, namely smooth maps from R^4 to R^4 with smooth inverses, up to smooth deformations. Surprisingly little is known about this problem. I will explain a connection between this problem and the problem of understanding loops of motions of 2-dimensional spheres (spheres "dancing" around each other) in various other 4-dimensional spaces, and why this in principle is a slight simplification of the problem.

Tuesday, March 25, at 4:00 PM,
CSP Conference Room 322, Physics Building

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