

Matchbox Dynamics

<http://www.auburn.edu/~kuperkm/dynamicsKrakow2012/>

ORGANIZER: Krystyna Kuperberg (*Auburn University, USA*)

Monday, July 2, 17:15–19:15, Small Hall

TALKS:

Alex Clark (*Leicester University, UK*), COAUTHOR: Krystyna Kuperberg,
Spongy matchbox manifolds

Steve Hurder (*University of Illinois at Chicago, USA*), **Cohomology and smooth embeddings for matchbox manifolds**

Olga Lukina (*Leicester University, UK*), **Dynamics of graph matchbox manifolds**

Ana Rechtman (*University of Strasbourg, FR*), COAUTHOR: Steven Hurder,
Topological entropy of the dynamics of the Kuperberg minimal set

Spongy matchbox manifolds

Alex Clark
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We shall examine the homogeneity properties of continua based on matchbox manifolds that locally are homeomorphic to the product of a Cantor set and a Menger manifold.

COAUTHORS: Krystyna Kuperberg

Cohomology and smooth embeddings for matchbox manifolds

Steve Hurder

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University of Illinois at Chicago, USA

We discuss the role of cohomology invariants for solenoids, and more generally minimal matchbox manifolds, for understanding their foliated embeddings into smooth (or possibly C^r for $r > 0$) foliations. In particular, we discuss relations between cohomology invariants associated to such embeddings, and the foliation dynamics, where the higher dimensional cases yield a much richer theory of invariants than for flows.

Dynamics of graph matchbox manifolds

Olga Lukina

Leicester University, UK

A graph matchbox manifold is the closure of a leaf in the foliated space obtained by suspending a partial action of a free group on the space of pointed trees with Gromov-Hausdorff metric. This space was first constructed by R. Kenyon and É. Ghys, and it constitutes a class of examples where one can explicitly compute. In the talk I will present some recent results about dynamical and topological properties of graph matchbox manifolds.

Topological entropy of the dynamics of the Kuperberg minimal set

Ana Rechtman
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In 1993 K. Kuperberg constructed examples of C^∞ and real analytic flows without periodic orbits on any closed 3-manifold. In the talk, I will present part of a study of the minimal set of Kuperberg's examples. In particular, I will explain that these examples are at the boundary of the set of flows with positive topological entropy in the C^1 topology.

COAUTHORS: Steven Hurder