

# Longterm- and path-properties of the symbiotic branching model

Jochen Blath<sup>1</sup>, Alison Etheridge<sup>2</sup> and Leif Döring<sup>1</sup>

<sup>1</sup>*Institute of Mathematics, Technical University of Berlin  
D-10623 Berlin, Germany*

*E-mail: blath@math.tu-berlin.de / doering@math.tu-berlin.de*

<sup>2</sup>*Department of Statistics*

*University of Oxford, Oxford, United Kingdom*

*E-mail: etheridg@stats.ox.ac.uk*

**Key words:** Symbiotic Branching Model, Self-Duality, Mutually Catalytic Branching, Wavespeed

In this talk we discuss some of the longterm- and path-properties of the so-called 'symbiotic branching model', introduced by Etheridge and Fleischmann in 2004. The model can be viewed as a spatial system of two interacting species who can only reproduce if both types are present in a given location.

The model provides a unified framework for several classical particle systems, like the stepping-stone and the parabolic Anderson model.

We show that it exhibits a rich and interesting longterm behavior and prove a result about the propagation of its interface.