

Workshop and lectures on Spatial Pattern Simulations

Monday, 3 March 2014 - Friday, 14 March 2014

KNUST

Scientific Programme

Week 1

Modeling Spatial Pattern Formation

General concepts on spatial pattern formation

Mathematical modeling of Biological systems

Reaction-Diffusion Equations and their applications to Biology

Analysis of Reaction-Diffusion equations

LPS method for generating parameter sets

Week 2

Review of the following papers

Pattern formation of a spatial predator–prey system (Sun et. al, 2012)

Cross diffusion-induced pattern in an SI model (Wang et. al, 2010)

Complex dynamics of a reaction–diffusion epidemic model (Wang et. al, 2012)

The spatial patterns through diffusion-driven instability in a predator–prey model (Guin et. al, 2012)

Apply LPS method to the above methods to generate parameter sets to obtain spatial patterns.