

## Pattern formation in nonlocal reaction diffusion systems

Peter Bates

The operator  $J * u - u$ , where  $*$  is convolution and  $J$  is a kernel with  $\int J = 1$ , acts like the Laplacian in some sense but is a bounded operator. What happens when the Laplacian is replaced by this nonlocal operator in a system having a Turing instability? We answer this question in a certain scaling of the kernel.