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*Asymptotics and spectral properties of an integrodifference model with a discontinuous kernel*

In this talk, we will show some analytic results we obtained for an integral equation modelling the discrete time dynamics of a population in a patchy landscape. Mathematically, the patchiness in the habitat is reflected in the discontinuity of the kernel of the integral operator, at a finite number of points in the whole domain. We prove that existence and uniqueness of a stationary state under certain assumptions on the principal eigenvalue of the linearized integral operator and the growth term as well. Under certain conditions the population undergoes extinction (in which case the stationary solution is 0 everywhere). This talk is from a joint work with Omar Abdul Halim.