1107-35-227 **Robert Stephen Cantrell**, **Chris Cosner** and **King-Yeung Lam***, Department of Mathematics, The Ohio State University, 231 W 18th Ave, Columbus, OH 43210. *Resident-invader dynamics in infinite-dimensional dynamical systems.*

We study the resident-invader dynamics for a class of models of spatial population with a one-dimensional trait, or strategy. We generalize the "tube theorem" by Geritz et. al. to infinite-dimensional setting and move on to prove various global dynamical results on coexistence and exclusion, based on local invasibility criterions including the notions of evolutionary stability and convergence stability in adaptive dynamics. Applications of our abstract results includes reaction-diffusion-advection models and nonlocal dispersal models. This leads to the novel conclusion that a recently established evolutionarily stable dispersal strategy in [Lam-Lou, J. Math. Biol. (2013)] is a neighborhood invader strategy. This is joint work with R.S. Cantrell (Miami) and C. Cosner (Miami). (Received January 15, 2015)