

Meeting: 1003, Atlanta, Georgia, SS 18A, AMS-SIAM Special Session on Recent Advances in Mathematical Ecology, I

1003-92-125 **Jeffrey D Achter*** (j.achter@colostate.edu) and **Colleen T Webb.** *Mixed dispersal strategies and spatial structure.* Preliminary report.

Whether a plant's offspring are close to the parent or quite far away has a dramatic effect on the spatial structure of the population; moreover, some organisms adopt a mixed dispersal strategy.

We present recent work on the ecological and evolutionary consequences of such strategies. Specifically, we use an analytic approximation to forge an explicit link between a spatially-explicit model and the random structures arising in percolation theory. We then exploit this connection to investigate the conditions under which a spatially-explicit disturbance regime acts as a selective agent for mixed dispersal. (Received August 09, 2004)