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**Andrew J. Bernoff, Michael Culshaw-Maurer, Rebecca Everett, Maryann E. Hohn, Christopher Strickland and Jasper Weinburd\*** (weinburd@umn.edu). *Collective waves from individual behavior in foraging locusts.*

Locusts gather by the millions to feed on crops, destroying fields of agricultural produce. As juveniles, wingless locusts march together and form a wave of advancing insects. We examine this collective propagation through two models: an agent-based model and a set of partial differential equations. The agent-based model is directly linked to individual behavior, via observations from the biological literature, while the PDE model yields insight into the collective behavior of the aggregate group. In this talk, we introduce both models and use them to determine the speed of the locust wave and the amount of food it leaves behind. (Received September 24, 2018)