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Two-Stage Aggregate Formation via Streams in Myxobacteria MARK ALBER, University of Notre Dame, MARIA KISKOWSKI¹, University of Notre Dame, YI JIANG, Los Alamos National Laboratory — In response to adverse conditions, myxobacteria form aggregates which develop into fruiting bodies. We model myxobacteria aggregation with a lattice cell model based entirely on short range (non-chemotactic) cell-cell interactions. Local rules result in a two-stage process of aggregation mediated by transient streams. Aggregates resemble those observed in experiment and are stable against even very large perturbations. Noise in individual cell behavior increases the effects of streams and result in larger, more stable aggregates. *Phys. Rev. Lett. 93: 068301 (2004)*.

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