
We are only starting to understand the molecular mechanisms that underlie cell and tissue movements during morphogenesis in metazoans. Dictyostelium discoideum provides a valuable model system for understanding these events — as it has for chemotaxis — despite the many differences that exist between this social amoeba and more complex organisms. Genetic and genomic studies, combined with real-time imaging, have identified key pathways that regulate morphogenesis in D. discoideum, and which are likely to have similar roles in metazoans.