

Patterning and Growth in Fly Limb Development

Boris I. Shraiman

Department of Physics, University of California, Santa Barbara, CA 93106, U.S.A.

The limbs and organs of an adult fly develop during the larval stage and before metamorphosis have the simple form of discs made of cell monolayers. Yet, this simple morphology conceals a complex pattern of cell differentiation that is created through the action of long-range morphogens and short-range cell-cell interactions. This pattern is created concurrently with disc growth due to cell proliferation. How is the patterning coordinated with growth? How does the disc know when to stop growing? This lecture will review what is known about these phenomena and present some theoretical models for the underlying mechanisms.