



Institute colloquium

Institute Colloquium: The ecology and evolution of collective behavior

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Host:

Like many complex biological systems, an ant colony operates without central control. Each ant responds to its interactions with other ants nearby. In the aggregate, these stochastic, dynamical networks of interaction regulate colony behavior.

Ants are extremely diverse, and species differences in collective behavior reflect relations with diverse environments. A long-term study of desert seed-eating ants shows how colonies regulate foraging activity according to food availability and humidity, and how natural selection is shaping collective behavior in current drought conditions.

Similar patterns of interaction, such as network motifs and feedback loops, are used in many natural collective processes, probably because they have evolved independently under similar pressures. Examples from ants provide a starting point for examining more generally the fit between the particular pattern of interaction that regulates activity, and the environment in which it functions.

Monday, January 27, 2014 04:30pm - 05:30pm
Raiffeisen Lecture Hall, Central Building



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