



Colloquium

Non-genetic adaptation by collective migration

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Host: Gasper Tkacik

Cells live in communities where they interact with each other and their environment. By coordinating individuals, such interactions often result in collective behavior that emerge on scales larger than the individuals that are beneficial to the population. At the same time, populations of individuals, even isogenic ones, display phenotypic heterogeneity, which diversifies individual behavior and enhances the resilience of the population in unexpected situations. This raises a dilemma: although individuality provides advantages, it also tends to reduce coordination. I will report on our experimental and theoretical efforts that use bacterial chemotaxis as a model system to understand how populations of cells reconcile individuality with group behavior during collective migration, and how that leads to adaptation of phenotypic diversity without involving environment-dependent gene regulation or mutations. This work was supported by NIGMS awards R01GM138533, R01GM106189, and R35GM158058

Monday, October 6, 2025 11:30am - 12:30pm

Raiffeisen Lecture Hall



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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