



EvoLunch

Lessons from ants on the evolution of collectively developing systems

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Many successes in life are based on collaboration. Microorganisms exchange nutrients through cross-feeding, and multicellular organisms are made up of tissues with different metabolic roles and needs. Social insects take this collaboration still further, integrating their behavior and physiology to the extent that a colony can be considered a superorganism. Many ant colonies engage in social exchanges of experimentally accessible fluids that contain both exogenously sourced and endogenously produced materials in a behavior called trophallaxis. Some species engage in this behavior infrequently and only in the presence of certain cues, while others perform trophallaxis so frequently that this network of fluid exchange creates a social circulatory system that mediates a form of shared metabolism. I will describe our work on how the endogenously produced proteins transmitted in these fluids relate to colony life in the carpenter ant, how trophallaxis allows a metabolic division of labor and how the globalization of processed goods over the trophallactic network has far-reaching implications for aging, ecology, evolution and development.

Tuesday, June 6, 2023 12:30pm - 01:45pm

Central Bldg / O1 / Mondi 2a (I01.O1.008)



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

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.