



## Institute colloquium

# The Institute Colloquium: Thinking versus drinking: Evolving social interactions in t

**Andrew Murray**

Harvard University

Host:

How fast can cells evolve novel behaviors, what types of mutations lead to these behaviors, and how many different mechanisms can lead to a single type of behavior? I will discuss our progress in analyzing the evolution of behavior in the budding yeast, *Saccharomyces cerevisiae*. Our basic approach is to apply strong selection for interesting traits in laboratory populations with high mutation rates, characterize the behaviors that appear, track down the mutations that cause these behaviors, and see what we can learn about how our populations evolved and then speculate about how natural populations have evolved over the much longer time scales of the non-laboratory world. The behaviors we have evolved include forming multicellular aggregates as a better way of exploiting public goods, using regularly fluctuating selection to produce a circadian oscillation in cells' ability to stick to each other, and the genetic equivalent of associative learning: the evolution of the ability to use an earlier innocuous signal to induce a protective response that will keep a later noxious environment from killing cells.

**Monday, June 10, 2013 04:30pm - 05:30pm**

Raiffeisen Lecture Hall, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <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.