

On February 23, 2012, PED Seminar Series Presents

Sticking together makes life sweeter

by [Dr. John Koschwanez](#)

I will present work supporting the hypothesis that efficient use of public goods was the selective force that led to the evolution of multicellularity. Yeast cells metabolize sucrose by hydrolyzing it outside the cell and importing the resulting monosaccharides. Modeling nutrient diffusion predicts that multicellular clumps of yeast cooperate to capture the diffusing monosaccharides and experiments show that clumps proliferate in low concentrations of sucrose where single cells cannot. We have evolved multicellularity in the lab by selecting for growth in low concentrations of sucrose.