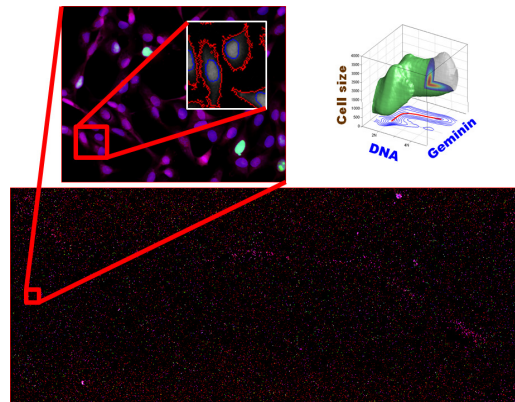




## Size specification in animal cells



The distinction between different animal-cell types is apparent not only from their function and morphology but also in from their *cell size*. At present, it is not known what mechanisms are responsible for specifying a cell's particular size. In part, this problem has remained unanswered because of a lack of tools to accurately measure how rates of cell-size changes are correlated with signaling events. In the talk, I will describe a new method, **ergodic rate analysis (ERA)** that uses single cell measurements of fixed steady-state populations to accurately infer the rates of molecular events, including rates of cell growth. With this method, one can calculate full time trajectories of any feature that can be labeled fixed cells, for example levels of phospho-proteins or total cellular mass. Using ERA we find evidence for a size-discriminatory process at the G1/S transition that acts to decrease cell-to-cell size variation.

### Dr. Ran Kafri

Cell Biology Program, Hospital for Sick Children  
(Candidate for Faculty Appointment)

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Host: Dr. Barbara Funnell

**Date:** Monday October 7, 2013

**Time:** 4:00 p.m.

**Place:** Medical Sciences Building  
1 King's College Circle  
Room 4279