



Global Integration in Single-Axis Polarization



Chin-Lin Guo, M.D., Ph.D.
Assistant Professor of
Bioengineering and Applied Physics
California Institute of Technology

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4:00 PM (refreshments)

33-105 Center for the Health Sciences

5:00 PM - Post-seminar discussion

ABSTRACT:

Organized interactions between cells often depend on cell polarization. Budding yeast cells respond to spatially uniform fields of pheromone by polarizing along a single axis. We fluorescently marked actin cables and proteins involved in cell polarity (Bem1, Cdc42, Cdc10, and Spa2) and used their responses to pheromone to discriminate between three models for polarization. Our observations rule out pre-existing marks that direct polarization, models based on lateral (global) inhibition, and support a new model whose key element is global integration of signaling by cytoskeleton-mediated transport. Unlike lateral (global) inhibition, the global integration model does not depend on unknown inhibitors, and gives robust polarization under a wide range of conditions.

Host: Dr. Tom Chou, tomchou@ucla.edu

To receive e-mail seminar notices, contact David Tomita (dtomita@biomath.ucla.edu)

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