



# CDB SEMINAR

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Tuesday, November 20, 2007

16:00~17:00 C1F CDB Auditorium

## Engineering Cellular Behavior: The Polarity Machinery of Chemotactic Cells

### Summary

Cell migration has been intensely investigated due to its involvement in a number of physiological events including angiogenesis, immunity, wound healing, and the establishment of neuronal networks. While the molecular mechanisms underlying cell migration are becoming clearer, investigations are limited without tools for temporally manipulating protein activity and second messenger levels in living cells. I have previously introduced an inducible heterodimerization strategy to control GTPase activity on the second timescale. As an extension of this technique, I have recently developed a system for the in situ manipulation of phosphoinositides, critical regulators of cell migration. In this study I apply both the GTPase and phosphoinositide inducible systems to quantitatively probe the polarity machinery of chemotactic cells in order to address a fundamental question in cell migration: how do cells sense a small gradient of external cues and convert it into morphological polarization?

### Host:

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