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Monisha Narayan (narayan.28@math.ohio-state.edu), **Ching-Shan Chou***
(chou@math.osu.edu) and **Hay-Oak Park** (park.294@osu.edu). *Cell Polarization in Budding Yeast*.

Cell polarization, in which intracellular substances localize to a particular spot in response to external stimuli or internal cues, is central to cell physiology, and it underlies processes such as cell motility, cell division and cell differentiation. In this talk, we will present our recent work, using budding yeast as a model system, on how cells initiate symmetry breaking preceding the new bud emergence. Our mathematical modeling and simulations reveal potential mechanisms which underlie a biased cell polarity observed in daughter diploid yeast cells. Together with experiments, we showed that the spatial landmark cues and a GTPase activating protein play central roles in cell type specific budding patterns. (Received February 04, 2013)