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Positioning of receptor clusters along the bacterial cell wall RANJAN MUKHOPADHYAY, HUI WANG, Clark University, YIGAL MEIR, Ben Gurion University, NED WINGREEN, Princeton University — Chemotaxis receptors in *E. coli* form clusters that are located at the cell poles and also laterally along the cell body, and clustering plays an important role in signal transduction. Recently, experiments using fluorescence imaging, have studied cluster dynamics during cell growth and found that lateral clusters transiently localize at positions approximately periodically spaced along the cell body. We have studied a lattice model of the dynamics of receptor clustering in the presence of cell growth. In this talk we will present results from our model and explore whether lateral cluster positioning could arise spontaneously from receptor clustering dynamics or whether the experimental results indicate the existence of periodically positioned markers along the cell wall that are targeted by the receptors.

Ranjan Mukhopadhyay
Clark University

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