Single cell embryos of the nematode worm *Caenorhabditis elegans* polarize by segregating specific types of proteins called Par proteins to distinct domains. The boundary between these domains is reliably positioned in wild type cells, although the mechanism for boundary positioning is not well understood. In this talk, I will present a biologically based model of the Par proteins as well as a simplified model based on the perturbed Allen-Cahn equation to demonstrate how domain thickness may play a role in positioning the Par protein boundary.