BMP4 density gradient in disk-shaped confinement BEHNAZ BOZORGUI, HAMID TEIMOURI, ANATOLY B. KOLOMEISKY, Rice University
— We present a quantitative model that explains the scaling of BMP4 gradients during gastrulation and the recent experimental observation that geometric confinement of human embryonic stem cells is sufficient to recapitulate much of germ layer patterning. Based on a assumption that BMP4 diffusion rate is much smaller than the diffusion rate of its inhibitor molecules, our results confirm that the length-scale which defines germ layer territories does not depend on system size.