

Polarity of Cortex Mechanics and Fluidity



RTG 2756

Overarching research question:

Does mechanical polarity exist in epithelial cells and if so, how does it arise and depend on functional cell-cell contacts?

- ▶ Developing new experimental strategies to characterize apical and basolateral membrane mechanics
- ► Combining experimental and theoretical approaches to link mechanics with cortical architecture

Whole-cells experiments Isolated cell cortices Apical surface Tight junctions Apical membrane Osmotic swelling **Adherens** junctions Desmosome Basolateral membrane (5) Gap junctions 4 Taking off the Top with a PDL Hemidesmosome coated cover slip **Focal contacts** Basal lamina Basal surface Actin Intermediate Microtubules filaments filaments

