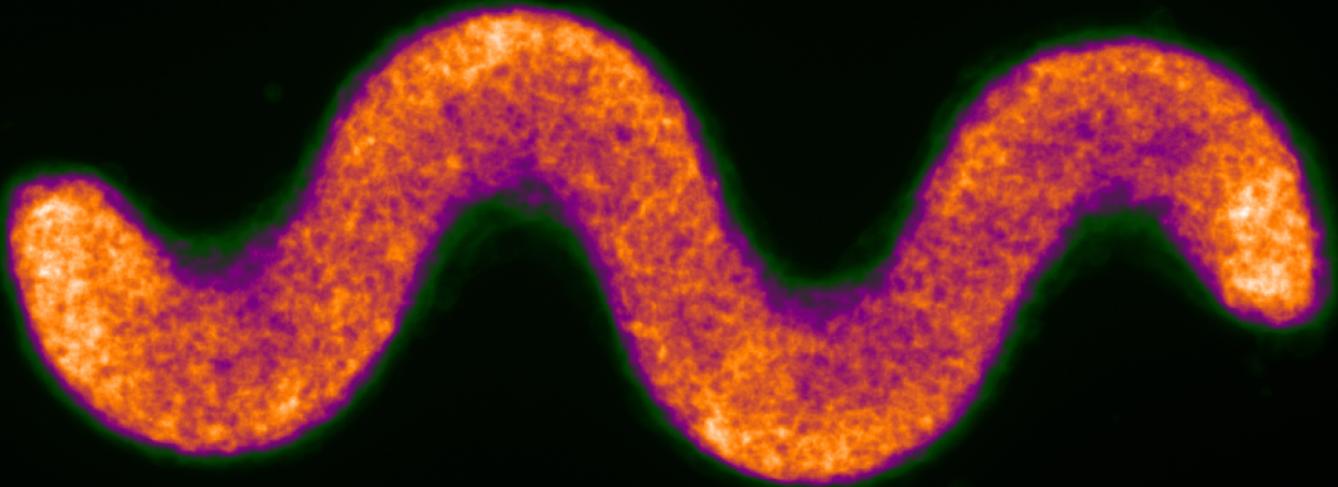


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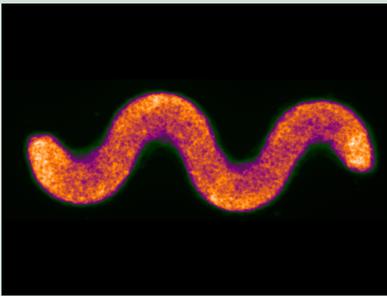
MOLECULAR BIOLOGY OF THE CELL



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MOLECULAR BIOLOGY OF THE CELL

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Epithelial cells experience different levels of mechanical stress depending on their positions within a tissue. Cells located at convex edges are pulled nonuniformly by their neighbors and thus are subjected to greater stress than cells located in the center of the tissue or at concave edges. Using microfabricated tissues of defined geometry, Silver *et al.* (*Mol Biol Cell* 31, 1691–1702) observed that the resulting gradients of mechanical stress regulate bioelectricity, the electric potential difference across the cellular membrane created by ion flux. Bioelectric cues can regulate a profound array of cellular behaviors, including proliferation. Shown is a stack of 21 microfabricated epithelial tissues imaged with the voltage reporter dye DiBac<sub>4</sub>(3), revealing higher depolarization (more positively charged cells) in high-stress convex regions. (Image: Brian B. Silver and Celeste M. Nelson, Princeton University)

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Submissions that report novel methodologies or large datasets are also encouraged, particularly when the technology or data will be widely useful, when it will significantly accelerate progress within the field, or when it reveals a new result of biological significance.

Authors should include with their manuscript submissions all previously unpublished data and methods essential to support the conclusions drawn.