Invited speaker

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Trigger waves in cell signaling

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16:15
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Ferrell’s group has been exploring the question of how regulatory signals spread through cells. By using as model system Xenopus egg extracts, the lab demonstrated that Cdk1 activity - which makes mitosis happen - and caspase-3/7 - which makes apoptosis happen - spread through the cytoplasm via what are termed trigger waves. There is good evidence that they do also in intact Xenopus eggs. Trigger waves require only three basic ingredients (positive feedback in the biochemical reactions, a mechanism for local spatial coupling, and a localized initiation point). The Ferrell lab suspects that they will prove to be widespread in the coordination of signaling in large cells and tissues.