



NCCR CHEMICAL
BIOLOGY

NCCR LECTURE SERIES

Invited speaker

JAMES E. FERRELL

Professor of Chemical and Systems Biology, Professor of Biochemistry
Stanford University, US



Trigger waves in cell signaling

March 25, 2019

16:15

UNIGE - A100

About the talk

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.



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