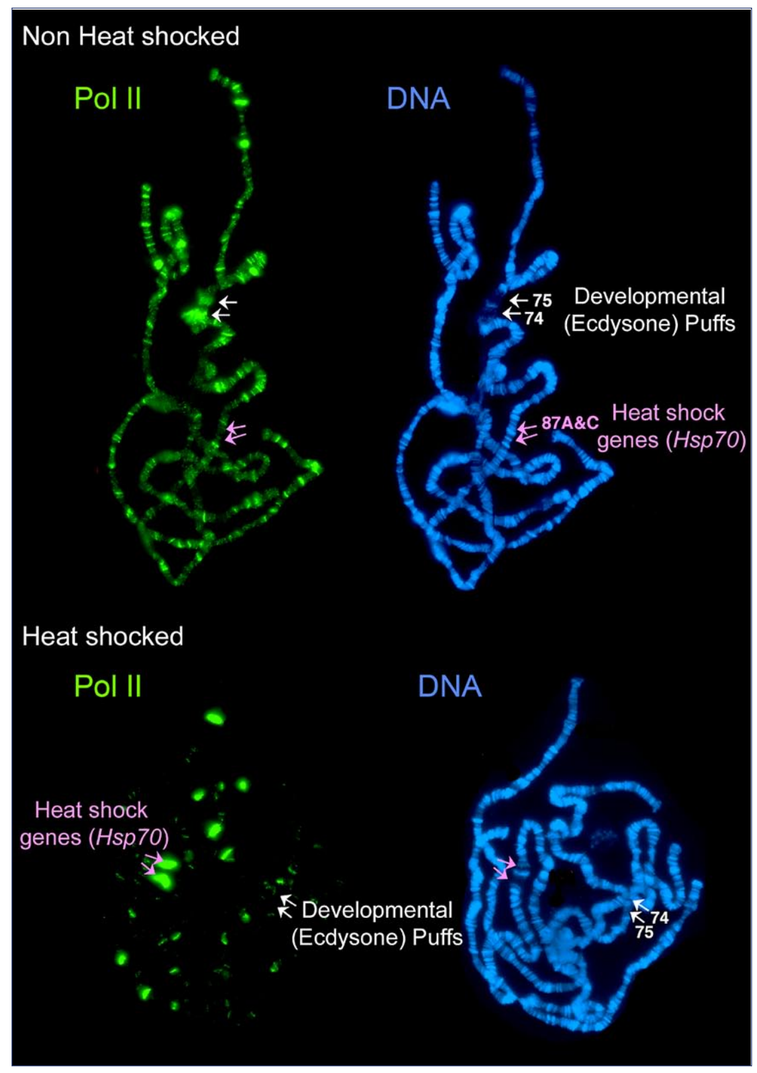
Rising Star



Immunofluorescence of Drosophila polytene chromosomes reveals the dramatic changes in gene expression and chromatin structure that occur upon heat induction of the stress response. Pol II staining is shown in green and Hoechst staining of the DNA is in blue (image courtesy of John Lis).

Karen Adelman

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Investigates the dynamic interplay between signals from the extracellular environment and transcription by RNA polymerase II, focusing on how chromatin structure and epigenetics influence gene activity. Characterized several key factors involved in cellular responses to stimuli, revealing that the regulation of transcription elongation plays a critical role in both the stress- and defense-responses. Recently discovered that the release of RNA polymerase II from the promoter-proximal region is rate-limiting for transcription of a large number of genes, elucidating a novel form of regulation that allows for rapid, integrated control of gene expression.

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