

The Information of Conformation: Chromatin Memory as the Imprint of Experience

This talk is about the idea that experience – for example inflammation or starvation - registers in cells in molecular form, via topological and structural changes in the chemical landscape of DNA and chromatin. A new crop of terms for this phenomenon, from transcriptional memory to metabolic memory, from epigenetic memory to chromatin memory, has appeared in the effort to characterize this phenomenon of the imprint left by the past on future transcriptional potential. Concurrently, ideas of the role and makeup of chromatin have been undergoing profound change. The genome is packaged in a tightly wound complex of proteins and DNA called chromatin. For many years, chromatin was thought of as a kind of inert scaffold for the information contained in genes, allowing a very long linear sequence to be condensed into the small area of the cell nucleus, sort of like a carrying case. We will examine how chromatin has “come to life” recently as the body of the genome and the medium of cellular memory.

Hannah Landecker, PhD
Associate Professor
Department of Sociology
&
Director
Institute for Society and Genetics
UCLA