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Dynamical modeling of the yeast genome

A genome is a complete copy of the entire set of genetic material that makeup a specific organism. Progress in live-cell microscopy had made clear that the genome is far from being a static information warehouse. Rather, it is a mechanically active entity that is constantly altering its shape. Chromosome motion can be described from polymer physics principles. Considering the organization of these long macromolecules and their constant exposure to random forces, understanding the mechanisms that alter their behavior requires integrating cell biology with physical principles that govern fluctuating chains. This talk focuses in applications of polymer theory to the studies of nuclear organization and function in yeast cells.