DNA Dynamics in Tight Spaces

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Nanofluidic devices offer model geometries to study the dynamics of highly confined polymers. We use double stranded DNA as a model polymer and single molecule microscopy to follow molecular dynamics in real space. Here I will review some of our results relating to the hydrodynamics and conformation of DNA in nanoslits. I will then move on to discuss recent results which show the synergistic effects of confinements on the collapse of DNA in poor solvents.