

Nanofluidics, Nanotechnology and Nanobiology

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The electronics revolution was enabled by our ability to learn how to microfabricate semiconductor circuits using optical imaging techniques and vacuum surface processing. This same revolution is now changing the face of biotechnology, first at the micron level and now increasingly at the nanoscale. I'll give a perspective of how physics plays a role in this technological revolution, emphasizing both the new forms of hydrodynamics that come into play, the changing nature of statistical mechanics as we go down in scale, and the ability to probe single molecules using this technology.