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**Measuring DNA through a Nanopore Fabricated Using Plasma Processing Technology**

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We have been developing a device based on a 2-3 nm diameter pore between two electrolyte volumes for the transit of DNA by means of a potential gradient. The nanopore is configured with 3 electrodes, each about 3 nm thick with 2-3nm dielectric spacers. The nanopore electrodes can be used to trap DNA in-transit, and ideally measure the impedance and hence the identity of each nucleotide as it passes through the nanopore, allowing real time sequencing of the DNA. The goal is to operate at megahertz, allowing sequencing of the entire genome within a few hours a fairly modest cost. This project has lead to numerous new developments in nanoscale fabrication, particularly for nanofluidics. The nanopore devices are fabricated using a number of critical plasma processing steps, both deposition and etch, in our 200mm pilot facility.