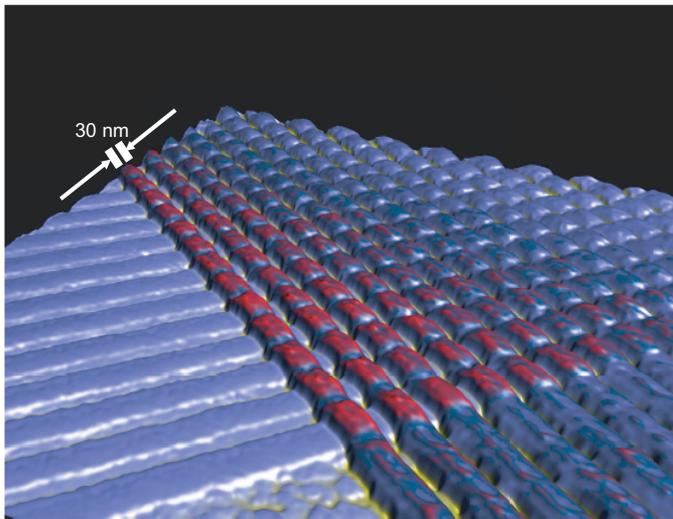
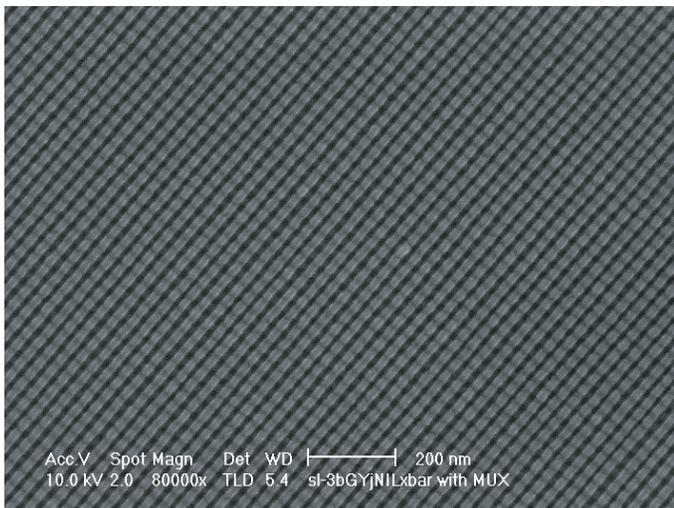


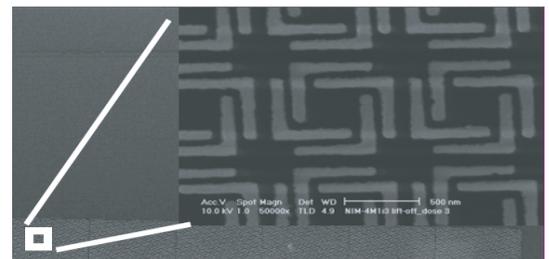
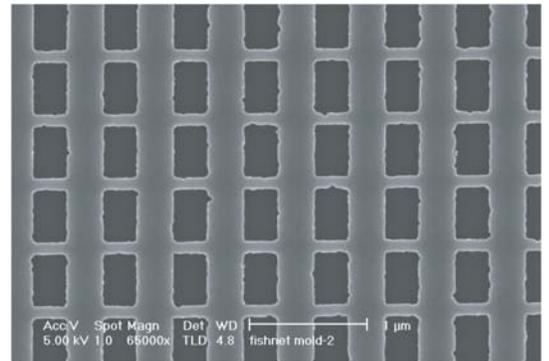
# Nanoscale molecular devices / circuits fabricated by HP labs using Auto Release™ Nanoimprint Lithography



Prototype array for a crossbar computing device, depicted in an atomic-force micrograph, has 34 nanowires (each 30 nanometers wide) intersecting with 34 others. The detail shows how one set of nanowires crosses over the other set. A junction of two nanowires is smaller than a typical virus.

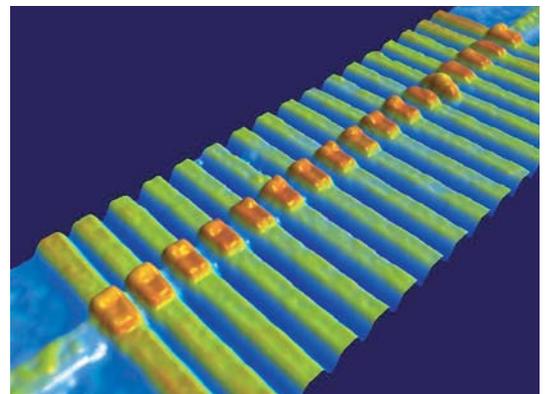


Crossbar Memory at 17 nm half-pitch with MUX/DEMUX - world density record.

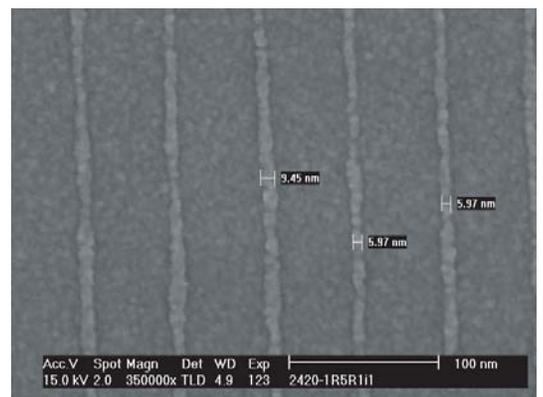


Top: the “fishnet” with 100 nm in one axis and 300 nm in the other, was designed to have a negative index at  $\lambda=1.5\mu\text{m}$ .

Bottom: L-shaped resonators (LSRs) array on Si<sub>3</sub>N<sub>4</sub> membrane



Nanologic circuits



Nanometal wires with 9 nm and 6 nm width.