New Bottom-up Nanomanufacturing Methods

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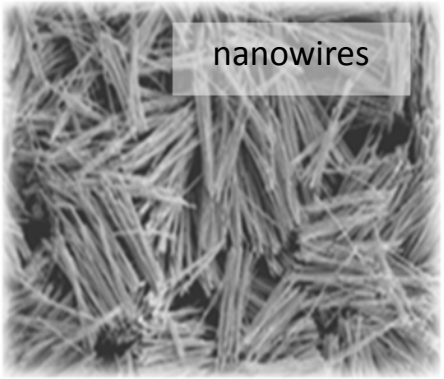
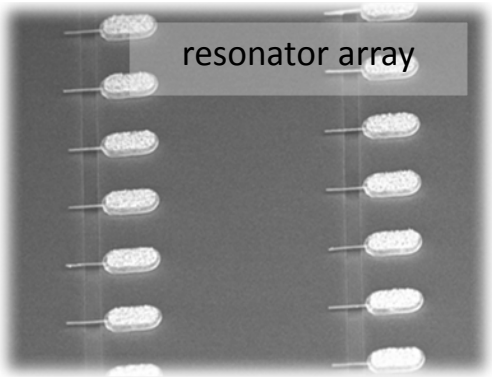
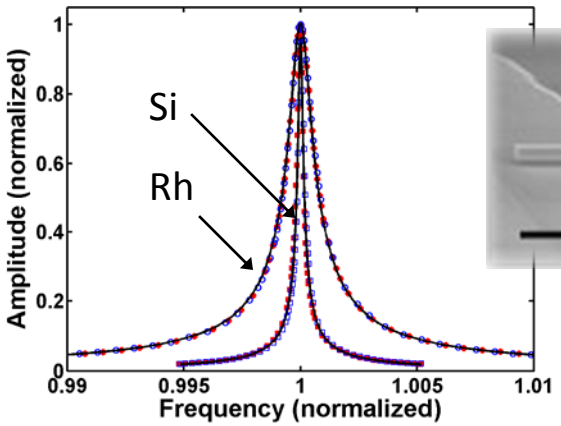
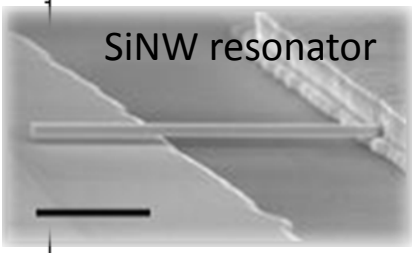






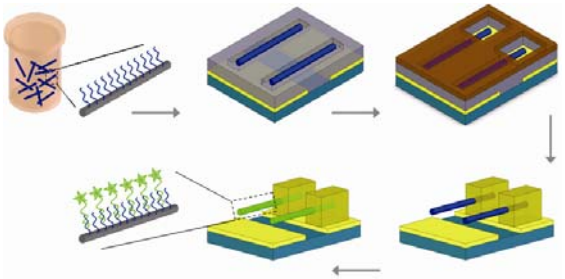


SiNWs: Q ~4,500

RhNWs: Q ~1,150

Researchers at the Penn State NNIN developed a new high-yield directed assembly method to fabricate arrays having over 2,000 single-nanowire devices. The nanowires were synthesized and chemically functionalized before they were integrated on a silicon chip at predetermined locations. PNA probe molecules attached to the nanowires retained their binding selectively after the array was assembled.

M. Li, *et al., Nature Nano.* 3, 88-92 (2008).



Penn State Site

NNIN is a vehicle for transferring bottom-up nanowire synthesis and directed assembly from research laboratories to user community.