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**300 mm arrays and 30 nm Features: Frontiers in Sorting Biological Objects**<sup>1</sup> ROBERT AUSTIN, Princeton University, BRANDON COMELLA, California Institute of Technology, JOSEPH D'SILVA, JAMES STURM, Princeton University — One of the great challenges in prediction of metastasis is determining when the metastatic process actually begins. It is presumed that this process occurs due to passage of biological objects in the blood from tumor to remote sites. We will discuss our attempts to find both very large objects (circulating tumor cell clumps) and very small (exosomes) using a combination of extremely large scale photolithography on 300 mm wafers and deep-UV lithography to produce sub-100 nm arrays to sort exosomes. These technologies push the envelope of present day academic facilities .

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