

Abstract Submitted  
for the MAR05 Meeting of  
The American Physical Society

**Continuous separation of human blood components through deterministic** JOHN DAVIS, DAVID INGLIS, JAMES STURM, ROBERT AUSTIN, Princeton University — Using a microfluidic device, the separation of red and white blood cells from their native blood plasma has been demonstrated. The device takes advantage of the asymmetric bifurcation of laminar flow around obstacles. This asymmetry creates a size dependent deterministic path through the device which depends on particle size. All components of a given size follow equivalent migration paths, leading to high resolution. One-micron diameter fluorescent polystyrene beads were added to a mixture of blood to mark the flow patterns. The blood WAS sorted into three distinct streams, consisting of 1 micron beads, red blood cells and white blood cells, respectively.

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Date submitted: 01 Dec 2004

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