

Abstract Submitted  
for the MAS14 Meeting of  
The American Physical Society

**Development of a Syringe-Pump for use in Disposable PSA-Tape Microfluidic Chips** ALAIN M. SCHREMMER, Lehigh University — Disposable, 12 $\mu$ m-thick microfluidic chips were designed and constructed for use in fluorescence microscopy. A syringe pump was also designed and created in order to drive discrete amounts of fluid through microfluidic channels with the highest amount of control. Procedures and images of the setup can be found in the Appendix of this paper to allow further experimentation and improvement. Chip designs were significantly improved although not perfected due to occasional leakage during use. There is vast potential for use of these procedures in future experiments due to the ability to tweak aspects of the setup to accommodate a wide variety of projects including terbium gel formation, neuron cell observation, and CNT behavior in aqueous solution.

Renee Diehl  
Pennsylvania State Univ

Date submitted: 09 Sep 2014

Electronic form version 1.4