

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Diffusion of micrometer-sized soft particles in confinement**<sup>1</sup> BENJAMIN JORDAN, KEVIN APTOWICZ, West Chester University — We investigate the diffusion of micrometer sized poly(N-isopropylacrylamide) (PNIPAM) gel particles in confinement. The influence of confinement on the transport of small particles is becoming increasingly important for microfluidics and bio-fluidics. Analytical solutions to this problem are limited to very unique geometries or gross approximations. Computational methods have provided more insight into the problem as well as experimental investigations. However, most research has focused on the hard-sphere problem. In this work, we will explore the diffusion of soft particles in confinement. The dynamics of the particles confined between two parallel walls is captured with video-microscopy. In addition, we use a recently developed technique to measurement confinement of particles in-situ with a precision of 1%. This poster will present some preliminary results of how confinement affects the diffusion of these soft particles.

<sup>1</sup>We acknowledge support from grant DMR-1206231.

Kevin Aptowicz  
West Chester Univ

Date submitted: 06 Nov 2015

Electronic form version 1.4