Sedimentary Deposition and the Kinetics of Jamming TED BRZINSKI, R. KARUNAMUNI, A. D. A. MAIDMENT, P. E. ARRATIA, D. J. DURIAN, University of Pennsylvania — We observe a dispersion of spheres sedimenting in a fluid until all grains form a packing. In a Newtonian fluid, the dispersion is roughly homogenous in space and time except at two well-defined interfaces: a dispersion-supernatant interface, and a jamming front below which grains form a jammed packing. This system is ideal for the study of jamming kinetics because the jamming front is stationary: it moves upwards with a constant speed and shape. To characterize the concentration profile at the front, we have utilized x-ray absorption to directly measure volume fraction as a function of height and time. To characterize the grain-scale dynamics across the front, we now utilize a light scattering technique, speckle-visibility spectroscopy, to directly measure fluctuations of the grain velocities as a function of height and time. In order to alter the kinetics of jamming in this model system, we perturb the hydrodynamic interactions between grains by using a viscoelastic fluid, and observe how the shape and speed of the jamming front changes.