Temporally heterogeneous dynamics in granular flows
LEONARDO SILBERT, University of Chicago — Granular simulations are used to probe the particle scale dynamics at short, intermediate, and long time scales for gravity driven, dense granular flows down an inclined plane. On approach to the angle of repose - the jamming point - the dynamics become intermittent over intermediate times, with strong temporal correlations between particle motions - a signature of temporally heterogeneous dynamics. This intermittency is characterised through large scale structural events whereby the contact network periodically spans the system. A characteristic time scale associated with these processes increases as the stopped state is approached. These features are discussed in the context of the dynamics of supercooled liquids near the glass transition.