1116-VC-1600 **Jason Karl Davis*** (jdavis8@ucmerced.edu) and **Suzanne S Sindi** (ssindi@ucmerced.edu).

Better Initial Conditions for Homogeneous Self-Assembly Problems.

We study homogeneous self-assembly problems from a stochastic framework using the chemical master equation. Applications range from droplet formation to protein polymer assembly. Most treatments of this problem utilize an "all-monomer" initial condition, where all of the system's mass is initially in size 1 particles. However, this is not appropriate for *in vivo* models, or even many *in vitro* models, where the system has existed for some time (allowing the assembly dynamics to evolve the system state for an indeterminate period of time). We propose a class of "least-informed" initial conditions, explicitly give their forms for constant-rate Becker-Döring and Smoluchowski models of assembly, and demonstrate that this choice can realize many orders of magnitude of differences between statistics of interest, such as nucleation time. (Received September 20, 2015)