Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Uncertainty quantification in agent-based modeling of SARS-CoV-2 transmission TIERNAN CASEY, Sandia National Laboratories — While the development of vaccines to inoculate the population against the SARS-Cov-2 virus is underway, and various promising treatments to improve outcomes have been identified, the primary mitigation effort to combat the spread of the virus has so far been the implementation of non-pharmaceutical interventions (NPIs). These NPIs include shelter-in-place orders, work-from-home and telecommute policies, and school closures. To determine the impact of these different NPI policies on infection within select regional populations, we deploy statistical inference tools to study the forecasts made by an agent-based model for viral spread. The basic concepts of the model will be discussed, as well as how tools regularly employed for uncertainty quantification in plasma modeling are used for calibration, sensitivity analysis, and uncertainty propagation, in order to inform intervention strategies.

Tiernan Casey
Sandia National Laboratories

Date submitted: 29 Jun 2020 Electronic form version 1.4