Shock ignition is a promising route for laser fusion ignition; in principle high-gain can be achieved with modest driver energies and hence capital investment. This poster will outline ongoing collaborative experiments on the Omega, NIF and LMJ laser facilities which are being performed to improve our understanding of the physics of shock ignition. In parallel we are developing hydrodynamic simulation tools which contain self-consistent models of kinetic laser-plasma interaction instabilities. By extensively benchmarking these new models against the experimental data in plasma conditions of direct relevance to full-scale ignition experiments, we aim to create robust design tools to evaluate the feasibility of this new approach to laser fusion.

R.H.H.Scott, K.Glize, L.Antonelli, N.Woolsey, T. Arber, K. Bennett, W. Theobald, A. Casner, D. Batani, R. Betti, V. Tikhonchuk, W. Garbett, Chikang Li, M. Wei, S. Atzeni.