

Jialu Chen

Mentors: Sam Bowles; Paul Hooper

The emergence of political hierarchy and economic inequality during the Holocene revolution can be explained by a progression of three equilibrium network structures derived from the economic and social conditions of the time (Bowles 2009). The preservability of the produces, the size of communities, and the division of labor are all vital aspects that determine the equilibrium network structures, which in turn give cues as to what types of distributions of wealth and patterns of political coalitions could have formed and how the system might evolve under the network structure. Starting with a 4-agent population, we will explore how various modifications of the rules on the individual, bi-lateral and coalitional levels can affect the equilibrium network structure. We will then study how such modification could play out in a larger population with both analytical methods and computational simulations.