

Agent-based Simulation Modelling for Addressing Social Challenges

Abstract

Agent-based modelling (ABM) is a computational simulation technique to study complex systems and interactions between autonomous entities like people, groups, places, and time. During the last decades, researchers have extensively applied ABM to examine various real-world phenomena. Unlike traditional positivist approaches, ABM can in silico create real-world-like complex systems based on theories and empirical behavioural and decision-making rules. ABM, therefore, allows researchers to explore a set of hypothetical, counterfactual scenarios before implementation by simply changing such rules and the related model parameters. In addition, its bottom-up approaches in model conceptualization and design gain attention for participatory model building and communication with stakeholders and the public. In this seminar, Dr. Koh will share his experience designing ABMs for food security and COVID-19.