Intro to Agent-Based Modeling (ABM) through Modeling Mass Opinion Dynamics

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About This Tutorial Session

Description

This tutorial session will demonstrate building some basic agent-based models (ABM) of population opinion dynamics in NetLogo. It will start by exploring various published opinion dynamics models (e.g. Zaller-Deffuant model). It will then continue with specific NetLogo topics such as implementing network models and extracting data from models for analysis.

Who Should Attend?

This tutorial is aimed at two groups: 1) people who have little experience with ABM (particularly NetLogo) and would like to develop their skills with an interesting social science problem, 2) people who have some ABM experience and would like to explore a few ways of modeling opinion dynamics using ABM.

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- Dr. William Burns, of Decision Research

About the Presenter

Dale Frakes is a Ph.D. candidate in the Systems Science program at Portland State University, working under Dr. Wayne Wakeland. He developed and teaches a course, “Modeling & Simulation with R & Python” as well as teaching the program’s course in Agent Based Modeling. He is currently working with two academic teams applying computer modeling to research on “Fake News” and Intergenerational Obesity.

Tutorial Materials

NetLogo

This tutorial uses NetLogo, a popular, user-friendly, and open-source system for developing Agent Based Models. It's freely available from Northwestern University:

https://ccl.northwestern.edu/netlogo/.

Tutorial Files

The NetLogo model files and presentation materials are available from GitHub:

https://github.com/dalefrakes/netlogo-tutorial

Slide with Bullets

- Bullet 1
- Bullet 2
- Bullet 3

Slide with R Output

```
summary(cars)
```

```
##      speed           dist       
##  Min.   : 4.0   Min.   :  2.00  
##  1st Qu.:12.0   1st Qu.: 26.00  
##  Median :15.0   Median : 36.00  
##  Mean   :15.4   Mean   : 42.98  
##  3rd Qu.:19.0   3rd Qu.: 56.00  
##  Max.   :25.0   Max.   :120.00
```

Slide with Plot