

Course literature

Manuals of reference

Wilensky, U., & Rand, W. (2015). *An Introduction to Agent-Based Modeling: Modeling Natural, Social, and Engineered Complex Systems with NetLogo*. MIT Press.

Railsback, S. F., & Grimm, V. (2019). *Agent-Based and Individual-Based Modeling: A Practical Introduction*. Princeton: Princeton University Press.

Basic readings

Unit 1:

Epstein, J. M. (1999). Agent-based computational models and generative social science. *Complexity*, 4(5), 41-60.

Gilbert, N., & Terna, P. (2000). How to build and use agent-based models in social science. *Mind & Society*, 1(1), 57-72.

Unit 2:

Wilensky, U., & Rand, W. (2016). *An Introduction to Agent-Based Modeling: Modeling Natural, Social, and Engineered Complex Systems with NetLogo*. MIT Press. [Chapters 2-5]

Railsback, S. F., & Grimm, V. (2019). *Agent-Based and Individual-Based Modeling: A Practical Introduction*. Princeton: Princeton University Press. [Chapter 3]

Unit 3:

Deffuant, G., Neau, D., Amblard, F., & Weisbuch, G. (2000). Mixing beliefs among interacting agents. *Advances in Complex Systems*, 3(1n4), 87-98.

Schelling, T. C. (1971). Dynamic models of segregation. *The Journal of Mathematical Sociology*, 1(2), 143-186.

Bruch, E., & Atwell, J. (2013). Agent-Based Models in Empirical Social Research. *Sociological Methods & Research*, 44(2), 186-221.

Unit 4:

Centola, D., & Macy, M. (2007). Complex Contagions and the Weakness of Long Ties. *American Journal of Sociology*, 113(3), 702-734.

Arthur, B. (1994). Inductive Reasoning and Bounded Rationality. *The American Economic Review*, 84(2), 406-411.

Unit 5 (possible readings):

Geschke, D., Lorenz, J., & Holtz, P. (2019). The triple-filter bubble: Using agent-based modelling to test a meta-theoretical framework for the emergence of filter bubbles and echo chambers. *British Journal of Social Psychology*, 58, 129-149.

Dornschneider-Elkink, S., & Edmonds, B. (2022). Does Non-violent repression have stronger dampening effects than state violence? Insight from an emotion-based model of non-violent dissent. *Government and Opposition*.

Erikson, E., & Shirado, H. (2021). Networks, property, and the division of labor. *American Sociological Review*, 86(4), 759-786.

León Medina, F. (2017). Analytical Sociology and Agent-Based Modeling: Is Generative Sufficiency Sufficient? *Sociological Theory*, 35(3), 157-178.

Additional readings

Acerbi, A., Mesoudi, A., & Smolla, M. (2020). *Individual-based models of cultural evolution. A step-by-step guide using R*. doi:110.31219/osf.io/32v6a

Axelrod, R. (1997). The Dissemination of Culture: A Model with Local Convergence and Global Polarisation. *The Journal of Conflict Resolution*, 41(2), 203-226.

Bonabeau, E. (2002). Agent-based modeling: Methods and techniques for simulating human systems. *PNAS*, 99(suppl. 3), 7,280-7,287.

Centola, D., Willer, R., & Macy, M. (2005). The Emperor's Dilemma: A Computational Model of Self-Enforcing Norms. *American Journal of Sociology*, 110(4), 1009-1040.

Chattoe-Brown, E. (2013). Why sociology should use agent based modelling. *Sociological Research Online*, 18(3), 31-41.

Chattoe-Brown, E. (2021). Why questions like 'do networks matter?' matter to methodology: How agent-based modelling makes it possible to answer them. *International Journal of Social Research Methodology*, 24(4), 429-442.

Epstein, J. (2006). *Generative Social Science: Studies in Agent-Based Computational Modeling*. Princeton: Princeton University Press.

Epstein, J. M. (2008, October 31). Why Model? Retrieved May 5, 2015, from <http://jasss.soc.surrey.ac.uk/11/4/12.html>

Flache, A., & De Matos Fernandes, C. A. (2021). Agent-based Computational Models. In Manzo, G. (Ed.). *Research Handbook on Analytical Sociology* (pp. 453-473). Edward Elgar Publishing.

Gilbert, N. (2007). *Agent-based models*. California: Sage.

Gilbert, N., & Troitzsch, K. G. (2005). *Simulation for the social scientist*. Glasgow: Open University Press.

Goldthorpe, J. H. (2001). Causation, Statistics, and Sociology. *European Sociological Review*, 17(1), 1-20.

Grimm, V., et al. (2020). The ODD Protocol for Describing Agent-Based and Other Simulation Models: A Second Update to Improve Clarity, Replication, and Structural Realism. *Journal of Artificial Societies and Social Simulation*, 23(2), 7.

- Laatabi, A., et al. (2018). ODD+2D: An ODD Based Protocol for Mapping Data to Empirical AMBs. *Journal of Artificial Societies and Social Simulation*, 21(2), 9.
- Macy, M. W., & Willer, R. (2002). FROM FACTORS TO ACTORS: Computational Sociology and Agent-Based Modeling. *Annual Review of Sociology*, 28(1), 143–166.
- Manzo, G. (2007). Variables, Mechanisms, and Simulations: Can the Three Methods Be Synthesised? A Critical Analysis of the Literature. *Revue Française de Sociologie*, 48, 35-71.
- Miller J. H., & Page, S. E. (2007). *Complex Adaptive Systems: An Introduction to Computational Models of Social Life*. Princeton, Princeton University Press.
- Mitchell, M. (2009). *Complexity: A Guided Tour*. Oxford: Oxford University Press.
- Nikolai C., & Madey, G. (2009). Tools of the Trade: A Survey of Various Agent Based Modeling Platforms. *Journal of Artificial Societies and Social Simulation*, 12(2), 2.
- Schelling, T. C. (1978). *Micromotives and Macrobehavior*. New York, London: Norton.
- Squazzoni, F. (2010). The impact of agent-based models in the social sciences after 15 years of incursions. *History of Economic Ideas*, 18(2), 197–234.