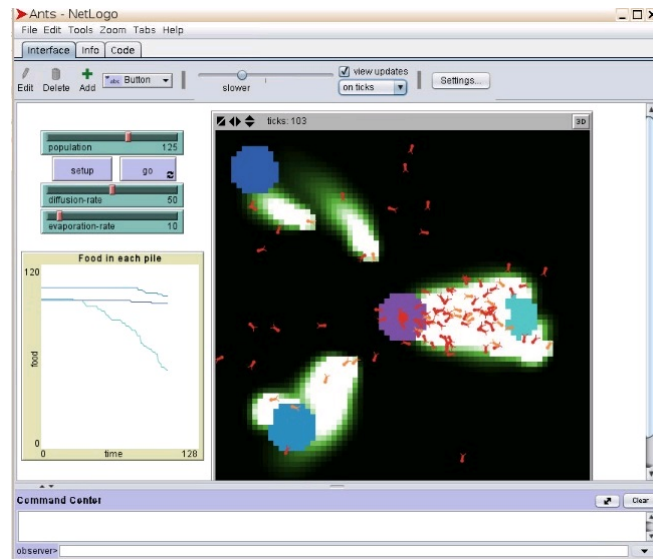# Community Spotlight

Each Community Spotlight features an outstanding group, partner, resource, or member of our community.

NetLogo, an agent-based modeling tool that can be run directly in your browser
By Uri Wilensky

Module Description:

This week's featured resource is NetLogo, a multi-agent programmable modeling environment that can be run directly on the QUBES website. NetLogo allows users to impose simple rules on individual "agents", explore the behavior of the individual agents under various conditions, and observe the impact of the agents' behavior on the system as a whole.

NetLogo is simple enough for use by students and teachers but robust enough for use as a research tool. Modelers can use NetLogo to create new simulations or use and adapt the many existing simulations in the NetLogo Models Library which address a variety of topics in biology, chemistry, physics, mathematics, computer science, economics, and social psychology. Each model in the library has a "Things to Try" section with suggestions for exploring the system, which can be used by students as it is or used by teachers to inspire a more extensive activity. A detailed Netlogo User Manual with tutorials is also available to help users get started with the software.

NetLogo was written by Uri Wilensky, the director of the Center for Connected Learning and Computer-Based Modeling at Northwestern University, where NetLogo is being maintained. NetLogo can be freely downloaded at http://ccl.northwestern.edu/netlogo/ or run directly in your browser at NetLogo Web or on QUBES at https://qubeshub.org/tools/netlogo.

Teaching Setting:

NetLogo models can be explored and revised as part of model-based inquiry in middle, secondary and undergraduate classrooms as well as serving as the basis for research in more advanced settings.

Citation:

Wilensky, U. 1999. NetLogo. Center for Connected Learning and Computer-Based Modeling, Northwestern University. Evanston, IL.   Available from http://ccl.northwestern.edu/netlogo/.

Visit Resource

(f) Share   (y) Tweet

Related Materials and Opportunities:

This week's featured resource is one of several QUBES-hosted software tools that can be run directly on the QUBES website.

Launch NetLogo.

You must be logged into your QUBES account to launch NetLogo. If you do not have a QUBES Hub account, register for one at www.qubeshub.org/register.

If you teach a course that includes agent-based modeling for scientists or would like to learn about agent-based modeling yourself, you may be interested in exploring the textbook, Agent-based and Individual-based Modeling: A Practical Introduction by Steven F. Railsback and Volker Grimm, which serves as a step by step guide to designing, implementing, and analyzing models. The authors work exclusively in NetLogo - learn why they use NetLogo here.

Steven F. Railsback and Volker Grimm host an online community for instructors teaching classes using their book, to share resources and teaching strategies, collaborate with other users, and provide feedback about their experiences using the book. If you currently use the book or are interested in adopting it, please join the Agent-Based and Individual-Based Modeling group.

The authors have also partnered with QUBES to offer online professional development opportunities called Faculty Mentoring Networks (FMNs) for teachers looking to gain experience with agent-based modeling or incorporate modeling into their courses in a manner that is approachable for math-phobic students. Check out their 2019 Agent/Individual-Based Modeling FMN and their 2015 Agent-Based Modeling FMN to learn more about these FMNs. If you are interested in participating in an FMN in the future, please subscribe to the QUBES newsletter to receive information about upcoming FMNs.

If you are looking for additional teaching materials that use NetLogo, check these out!

- Altruism Simulation Activity - an animal behavior activity designed to support students' exploration of the NetLogo Altruism Model

- Ebola Model - a NetLogo model of Ebola transmission in a population over time

- Infections On NeTWorks (IONTW) - a NetLogo-based tool for teaching network models of disease transmission. Learn more about IONTW and explore related teaching materials in the Exploring Transmission of Infectious Diseases on Networks with NetLogo group.

You can find more NetLogo teaching materials in the QUBES collection of Open Education Resources.

Subscribe / Unsubscribe from mailing list
View Community Spotlight on QUBESHub
Community Spotlight: Issue 56

Subscribe / Unsubscribe from mailing list
View Community Spotlight on QUBESHub
Community Spotlight: Issue 56