



CoMSES Digest: Spring 2023

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Editor's Note

Greetings from the CoMSES Net team! As part of our goal to improve and advance the use of socio-ecological models, CoMSES continues to develop a catalog of educational resources aimed at encouraging good scientific software practices. These resources are now available from a single ['Education' page](#) on the CoMSES webpage and can be accessed by anyone interested in learning scientific practices that are complimentary to your agent-based model research.

Currently, there are three focus areas that may be of use to you, your colleagues or students. First, we have created a series of videos focused on the development of responsible practices for scientific software. These videos outline the importance of using FAIR guidelines in order to help properly record information about your research. In the 'good practices' section there are also short videos that highlight the importance of metadata, documentation, using software management tools like GitHub, and how to choose a license for your software. These videos can be viewed individually or as a brief course terminating in an online assessment and certificate. Find the videos [here!](#)

Our second focus area is on the use of GitHub. We have created an online course using GitHub classroom to help you learn the basics of GitHub. While GitHub can be bewildering at first, this online course guides you through a series of assignments that walk you through the basics. Check out the course [here!](#)

In accordance with CoMSES' goals of promoting replication in scientific software, we have also created a GitHub classroom with the goal of teaching researchers to containerize their agent-based models. Those taking the course can do so in the cloud and even use GitHub to run their software container. Learn how to containerize a NetLogo model [here!](#)

The goal of our educational content is not simply to teach agent-based modeling; our aim is to teach and establish new community standards that promote better science. These practices will help your research be more transparent, and reusable, ultimately increasing its impact. The development of our educational content is ongoing and we would like to encourage you to reach out with feedback either about our current materials or with suggestions about future topics.

Best regards,
Sean Bergin
CoMSES.Net Guest Editor
Arizona State University

CoMSES News

NEW INITIATIVE: Making Models FAIR

Imagine a world where models are available to build upon. You do not have to build from scratch and painstakingly try to figure out how published papers are getting the presented results. To achieve this utopian world, models have to be findable, accessible, interoperable, and reusable (FAIR). With the newly launched "Making Models FAIR" initiative (<https://tobefair.org>), we seek to contribute to moving towards this world.

The initiative aims to provide a platform to learn the skills needed to make models FAIR. We provided an initial list of widely cited agent-based models, and now we can see how far we can get as a community in making them all FAIR! We expect that this initiative will be an avenue to identify potential

improvements that could be made into a master list of “best practices” in making models FAIR. We also offer educational material, which will help you learn:

1. [what FAIR is](#)
2. [how to do robust model documentation](#)
3. [how to use GitHub](#)

So, are you ready to join the community, improve your skills and knowledge, and contribute to this public good? Check out the [initiative website](#), learn the [proposed process](#), and [find a model](#) to work on!

The Open Modeling Foundation Takes Off!

CoMSES.Net is a founding member of the Open Modeling Foundation (OMF), an international federation of organizations for community standards in computational modeling across the social, biomedical, ecological, environmental, and geophysical sciences. The OMF full Members Council met for its first annual meeting on 8-9 March, 2023, hosted in person and online by the Helmholtz Centre for Environmental Research - UFZ, in Leipzig, Germany.

CoMSES.Net was represented at the meeting by Sean Bergin, an alternate for official delegate Marco Janssen. Also from CoMSES.Net were Allen Lee, heading OMF Cyberinfrastructure, and Michael Barton, OMF Executive Director. 46 organizations were represented at the meeting, as well as researchers from UFZ and other members of the international modeling community.

Barton and Working Group chairs reported on activities over the past year. The OMF received a large grant from the Alfred P Sloan Foundation to help launch the organization over the coming two years. Papers announcing the OMF and its mission were published in the Proceedings of the National Academy of Sciences (USA) and Environmental Modeling and Software. Over 3,600 users visited the OMF Science Gateway over the past year, with the largest number of visitors coming from North America (2340), eastern Asia (1070), and Europe (936). Working Groups are in the process of being set up, and the chairs have exciting plans for the Standards, Education and Outreach, Certification, and Early Career Scholars groups. Dozens of individuals have already joined these groups. If you are interested in joining a working group, you can do so at: <https://asu.questionpro.com/omf-wg-joinrequest>.

For more information about the OMF, visit the Science Gateway at <https://openmodelingfoundation.org>.

Board Elections Results

Hassan Bashiri and Dale Rothman were elected as the newest members of the CoMSES.Net Executive Board – welcome! We would also like to thank Andrew Bell and Flaminio Squazzoni for serving over the past 3 years on the board, and everyone who voted in these elections. We are grateful for the interest in helping us set the future course for CoMSES.Net.

Update your CoMSES Profile!

Please consider keeping the CoMSES community informed by updating your user account on CoMSES Net! Let fellow researchers and modelers get to know you by including a biography, research interests, and/or institutional affiliation. [Click here](#) to edit your profile and link your account to GitHub and ORCID! As always, feel free to join the conversation by visiting the Forums tab or by starting a discussion on a specific model, event, or job posting.

Calendar of Events

Please follow the links to the local event organizers for the latest information or go to <https://comses.net/events/> for a listing of all recent events. You can also subscribe to new events by following us on [Twitter](#) or subscribing to our [RSS Events feed](#).

Upcoming Deadlines

[CSDMS 2023 Annual Meeting - Patterns and Processes Across Scales](#)

Dates: May 16-18, 2023

Submission & Registration Deadline: April 1, 2023

Please join us for the [CSDMS Annual Meeting](#), “CSDMS 2023: Patterns and Processes Across Scales”, taking place May 16-18, 2023 in Boulder, Colorado. As always, there will be an informative lineup of keynote talks and 2-hour training clinics! Lively poster sessions and breakout sessions/jams will provide a chance to meet with old and new friends, and learn about new tools and resources. Registration opens January 20th, 2023. Registration/abstract

submission deadline, April 1, 2023.

[BEHAVE Summer School 2023 on "Agent-Based Modelling for Social Scientists"](#)

Dates: September 11-22, 2023

Submission Deadline: April 30, 2023

Jointly organised by the Behave Lab, University of Milan and University of Brescia, this school aims to train students on agent-based modelling by theoretical and practical lectures, daily hands-on sessions on NetLogo, project presentations and personal counselling by experts.

The school is hybrid with up to 40 participants in Brescia and unlimited others remotely connected. The training will take from 10-13AM to 2-5PM (CET Time). The first week is addressed to beginners or experts needing a refresh and will introduce the principles and methods of agent-based modelling, NetLogo and modelling exercises. The second will provide advanced training on model calibration and validation, with intense training on statistical analysis, including an intermediate Sunday tutorial on R for beginners offered to students not familiar with R.

Model Library

Newly Reviewed

Five models passed CoMSES's [peer review process](#) this quarter! Some are still unpublished while their companion publications undergo journal peer review; others are currently under review by CoMSES. Published include the following models:

- [Reduced Mobility Transition Model \(R-MoTMO\)](#) is a large scale agent-based model to simulate the private mobility demand in Germany until 2035. (Gesine Steudle, Steffen Fürst, and Sarah Wolf)
- [PolicySpace2: modeling markets and endogenous public policies \(PS2\)](#) is an adapted and extended version of the open source PolicySpace agent-based model. PS2 is a computer simulation that relies on empirically detailed spatial data to model real estate, along with labor, credit, and goods and services markets. (B Furtado)
- [Monogamous Reproduction in Small Populations and the Enforcement of the Incest Taboo](#) was developed to simulate monogamous reproduction in small populations (and the enforcement of the incest taboo). (Ian Stuart)

New Model Uploads

Fourteen new models were published in the [CoMSES Model Library](#) on a wide variety of topics that illustrate the depth and breadth of our community. These include:

- exploring organizational dynamics through informal [knowledge sharing in a hospital](#)
- helping students practice agent-based modeling by analyzing the impacts of land use policies in a [dairy-farm world](#)
- simulating [consumer dietary decisions](#) based on personal values and social networks
- identifying potential factors that shape researchers' ability to reconstruct [prehistoric social networks from material artifacts](#)
- investigating the impacts of [pesticide use and inter-row management of European winegrowers](#) in the context of climate change

These models and more can be discovered at the [CoMSES Model Library](#) - you can also keep up-to-date with newly published models on our [Twitter](#) and [RSS](#) feeds.

Most Downloaded Models

Published models were downloaded a total of 4,692 times this quarter, across 636 unique codebases. Here are the top five:

1. [OMOLAND-CA: An Agent-Based Modeling of Rural Households' Adaptation to Climate Change](#) by Atesmachew Hailegiorgis, Claudio Cioffi-Revilla, and Andrew Crooks (231 downloads)
2. [Dawkins Weasel](#) by Kristin Crouse (193 downloads)
3. [Transport simulation in a real road network](#) by Jiaqi Ge and Gary Polhill (154 downloads)
4. [MigrAgent](#) by Rocco Paolillo and Wander Jager (127 downloads)
5. [Evolution of Sex](#) by Kristin Crouse (118 downloads)



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