

## CoMSES Digest: Fall-Winter 2023

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### Editor's Note

Greetings from the CoMSES Net team! This past fall, members of the CoMSES team attended the Cyberinfrastructure for Sustained Scientific Innovation (CSSI) meeting in Houston hosted by the National Science Foundation. The meeting provided the opportunity for CSSI funded projects like CoMSES to connect with other projects and highlight their own accomplishments through talks and posters. Significant topics discussed at the meeting included Software Sustainability, Creating Diverse Teams and Communities as well as Preparing Students to write Software and Conduct Team Science.

The CoMSES team presented a poster calling attention to our accomplishments of the last year. Overall, the CoMSES network community continues to grow; both the CoMSES network membership and the number of models submitted to the model library has continued to increase. A number of initiatives to improve user experience have been enacted, including large-scale UX overhauls on commonly used functionality within the model library such as archiving and discovery tools. The CoMSES team is also deploying machine learning workflows to clean metadata and prevent spam.

In order to better serve our community, we have begun mapping the user base through surveys and this information is accessible through our [community metrics page](#). The poster also reviewed [new educational training](#) described in the previous CoMSES Digest as well as our current focus on software tools to aid CoMSES users in running their models on the Open Science Grid HTC environment. The poster presented by CoMSES can be viewed in its entirety [here](#).

The CoMSES community continues to grow through the hard work of our CoMSES team as well as the involvement of our members and we would like to thank you for your past and continued involvement.

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

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### CoMSES News

#### CoMSES Executive Board Elections

Elections for the CoMSES Executive Board are now open. All full CoMSES members have been sent a virtual ballot in a separate email. If you received your ballot for these elections, don't forget to submit your vote by January 12th, 2024!

Interested in becoming a full member? Edit your [CoMSES user profile](#) and check the box "Full Member" after reading and agreeing to the associated rights and responsibilities. You will be able to vote starting the next elections cycle.

#### CoMSES Site Updates

We have streamlined our Computational Model Library Peer Review process with a few changes and new features. Going forward, all peer reviews will be conducted on private releases. For authors, this simplifies the process of making revisions based on reviewer feedback and makes it easier for reviewers to keep track of changes. The shift from an easily overlooked suggestion to a requirement is facilitated by automatic mirroring of source code and metadata when you request a review on a public release, while still allowing the regular flow of creating drafts and publishing releases. You can read more about the current process [here](#).

We are also grateful for the assistance of several undergraduate developers who helped to launch a new [metrics page](#) that displays CoMSES usage statistics since our inception. This page includes data on CoMSES membership as well as model submissions and interactions all displayed in interactive charts. Our student developers are now working on integrating machine learning and natural language processing modules into the CoMSES Science Gateway to help our curators deduplicate tags, perform spam detection, and more.

Please let us know what you think about the site improvements, and if you encounter any bugs or other issues please report them to us at <https://comses.net/about/contact> or by directly emailing us at [support@comses.net](mailto:support@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

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

[French Regional Conference on Complex Systems \(FRCCS 2024\) Workshop](#)

Date: May 28th, 2024

Deadlines: January 12th, 2024 (Workshop Proposals), February 21st, 2024 (Submissions)

The 4th French Regional Conference on Complex Systems will be held in Montpellier, France between May 29th and 31st, 2024. The conference is currently inviting proposals for workshops on May 28th, 2024. Proposals should be on current and emerging topics in Complex Systems. Workshops will be geared towards discussions of novel issues in a small and interactive atmosphere.

The workshop proposals can be in any research topic as long as they are relevant to Complex Systems and will be half day (4 hours, with 30 minute coffee break) and full day (7 hours, including two 30-minute breaks). Proposals should be submitted by January 12, 2024 and must register for the main conference.

[25th International Workshop on Multi-Agent-Based Simulation \(MABS 2024\)](#)

Dates: May 6th-7th, 2024

Submission Deadline: February 5th, 2024

The 2024 Multi-Agent-Based Simulation (MABS) workshop is the 25th of the MABS series which began in 1998. Its scientific focus lies in the confluence of social sciences and multi-agent systems, with a strong application/empirical vein, and its emphasis is stressed on (i) exploratory agent based simulation as a principled way of undertaking scientific research in the social sciences and (ii) using social theories as an inspiration to new frameworks and developments in multi-agent systems.

The excellent quality level of this workshop has been recognized since its inception and its proceedings have been regularly published in Springer's Lecture Notes series. MABS 2024 will be hosted at [AAMAS 2024 \(23rd International Conference on Autonomous Agents and Multiagent Systems\)](#), which will take place at the University of Auckland, New Zealand in on May 6th to 10th, 2024.

MABS 2024 continues its tradition of fostering cross-fertilisation and innovation in MAS engineering and complex social and sociotechnical systems modeling. The workshop encourages submissions in areas such as simulation methodology and tools, simulation of social and intelligent behaviour, diverse applications, and simulation analytics.

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## Model Library

### Newly Reviewed

Thirteen models passed CoMSES's [peer review process](#) this semester! Some are still unpublished while their companion publications undergo journal peer review; others are currently under review by CoMSES. A selection of the published, reviewed models includes:

- [Street Dog Sim](#) is an agent based model constructed in Netlogo v6.2.2 which seeks to provide a simple but flexible tool for researchers and dog population managers to help inform management decisions. It replicated basic demographic processes including reproduction, natural death, and dispersal.
- [SequiaBasalto Model](#) is a replication of the SequiaBasalto model, originally built in CORMAS by Dieguez Cameroni. The model aimed to test various adaptations of livestock producers to the drought phenomenon provoked by climate change.
- [ABM to create populations with realistic Big Five Personality Trait Expressions](#) aims at creating agent populations that have "personalities", as described by the Big Five Model of Personality.
- [Correlated random walk](#) is an agent based model simulated the movement of the agents as a correlated random walk (CRW).
- [Yards](#) is a model of plant communities in urban and suburban residential neighborhoods.
- [HUMAN impact on LANDscapes \(HURLAND\)](#) model has been developed to track and quantify the intensity of different impacts on landscapes at the continental level.

### New Model Uploads

Forty-seven 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:

- Understanding [adoption and aversion of Covid-19 vaccinations](#) in the Cleveland area.
- Exploring pathways towards establishing [human settlements on Mars](#).
- Simulating the transition of an abstract city under an industrial revolution through [coupling of housing and labour markets](#).
- Illustrating the [co-adaptation of low-carbon household energy technologies](#) such as photovoltaic solar panels, electric vehicles, heat pumps, and home batteries.
- Predicting potential shifts in traffic dynamics in a simulated [pedestrian model](#) which sheds light on decision making processes for mid sized cities.
- Exploring the relationship between [disagreement over the diagnostic value of evidence](#) and the formation of polarization in scientific communities.

### Most Downloaded Models

Published models were downloaded a total of 4,149 times this semester, across 793 unique codebases. Here are the top five:

1. [Viable North Sea \(ViNoS\): A NetLogo Agent-based Model of German Small-scale Fisheries](#) by Carsten Lemmen, Sascha Hokamp, Serra Örey, Wolfgang Nikolaus Probst, Jürgen Scheffran, Jieun Seo, and Verena Mühlberger (56 downloads)
2. [An Agent-Based Model of Farmland Transfer](#) by Peng Jiang and Hang Xiong (54 downloads)
3. [Hybrid individual- and particle-based simulation model and data on air pollutants and vertical greenery systems in the city of Yerevan, Armenia](#) by Andranik Akopov (51 downloads)
4. [Residents planned behaviour of waste sorting to explore urban situations](#) by Jonathan Edgardo Cohen (44 downloads)
5. [Stylized agricultural land-use model for resilience exploration](#) by Patrick Bitterman (43 downloads)

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.



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