



## CoMSES Digest: Fall 2025

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### Editor's Note

While 2025 began with much uncertainty, our [Spring CoMSES Digest issue](#) opened with a touch of history from the CoMSES Director Michael Barton who ended by saying *"As we begin our third decade as a community of practice, we aim to continue and further expand CoMSES.Net's mission of serving science and society. In looking back, we can celebrate the value and power of united community action in CoMSES.Net's achievements"*. In the last few weeks the CoMSES team has been hard at work putting together our annual NSF report. One of the major take-aways from this process is that when faced with the challenges, uncertainty, and the many unknowns that 2025 has stacked against science, [CoMSES.Net](#) has continued to serve the community, it has continued to be a vital and valuable resource, and has continued to strengthen & grow!

We have seen continued growth in model downloads, peer review requests, and gateway interactions, largely dominated by the 47.5% of users utilizing us for Research, and the 46.5% of users utilizing us for Education in the last year. We will be showcasing many of the results and CoMSES statistics in our "Year in Review" section in our upcoming Winter Digest issue - but a few sneak peaks and highlights are: 1) Our membership is nearing 4,000 modeling scientists and model users in the network, representing every continent of the world (except Antarctica). 2) In the last year we have grown our membership representation from 66 countries to 85 countries. 3) The CoMSES [Computational Model Library](#) (CML) continues to grow as an openly accessible resource for modeling science. There are now over 1,200 models published in the Library, with open source code, detailed description, and metadata available for each model! And 4) The proportion of peer-reviewed models to total models in the library has grown to 14.4%.

As Michael stated in the Spring Digest *"You deserve to take pride in what you've accomplished and can look ahead with confidence in what we can achieve as a community in the future"* - We have come a long way from our humble beginnings, and even when facing seemingly insurmountable challenges, we are continuing our mission, and succeeding together as a community. This is worth celebrating!

Best regards  
Charlotte Till & Amy Rieth  
CoMSES Support and Administration, Arizona State University  
CoMSES.Net Fall Issue Guest Editors

## CoMSES News

### CoMSES Net Updates: The PI Meeting

On July 27-29 I attended a [Principal Investigator meeting](#) in Denver, Colorado for projects currently funded by the US National Science Foundation's Cyberinfrastructure for Sustained Scientific Innovation (CSSI) / Cybertraining / Strengthening the Cyberinfrastructure Professionals Ecosystem (SCiPE) programs. I presented two posters - the [first poster](#) covered the current state of CoMSES Net and our vision and roadmap for the future and the [second poster](#) demonstrated a prototype design for what CoMSES staff research software engineer Anton Suharev has dubbed the [CoMSES Librarian](#), a prototype Retrieval Augmented Generation (RAG) system that leverages the CoMSES Model Library's data corpus for chatbot style queries over the entire Model Library, an individual model, or a set of models. Our goal is to build an as-easily-deployable-as-reasonably-possible technology stack that could be applied to other [research software registries or repositories](#) and provide the benefits (and drawbacks 😊) of LLMs for their research software holdings. The system is intentionally designed to be LLM-agnostic and favor [open source models](#) that can be deployed on any compute infrastructure from commercial cloud offerings like AWS or Azure to compute allocations offered by the [Digital Research Alliance of Canada](#), the [US National Artificial Intelligence Research Resource \(NAIRR\) Pilot](#) or the US National Science Foundation [ACCESS Allocation](#).

The meeting covered familiar technical ground but a new and welcome recurring theme was how best to build continuity and resilience into funded cyberinfrastructure and cyber-training materials and the people who sustain and maintain them. Dr. Rudolf Eigenmann delivered a keynote, "[Developing an RSE Workforce for Accelerating Computational, Data, and AI Applications](#)" that highlighted the importance of developing RSE talent pipelines and working to establish norms and institutions around retention and career development for RSEs that balance efficiency and institutional knowledge and serve as a force multiplier for computational science. As a concrete example, we have found hiring and managing a team of student developers to develop production features on the CoMSES Science Gateway to be a high-value activity well worth the cost of staff time - it strengthens the maintainability of the gateway as a software product by fostering a culture of clarity and continuity across the development team, and provides students with valuable industry-relevant experience, increasing the potential pipeline of future Research Software Engineers. Student developers learn to collaboratively develop research software with disciplined version control, participate in weekly scrum-style standups to discuss blockers and priorities, and engage in the full research software development lifecycle including pair programming, code review, software design, testing, maintenance, and quality assurance – aspects of software development not typically covered in coursework.

The breakout group that I participated in was focused on how to preserve continuity in cybertraining projects (as well as related cyberinfrastructure). Examples from [the Carpentries](#) were highlighted as having clear contribution pathways and an engaged community that can iterate on how to deliver educational materials to an international audience (as a lesson maintainer I'm always happy to plug our [Plotting and Programming in Python](#) and [Good Enough Practices in Scientific Computing](#) lessons also!). The "[Process Oriented Guided](#)

[Inquiry Learning](#) ” (POGIL) was also highlighted, which has seen great community success in chemistry - they’ve developed a self-sustaining and supportive community that allows for individual contributions to be rewarded (publishing materials provides cash money from their non-profit) and they leverage existing events for their members to meet to maximize the return on travel investment. It would be interesting to see whether aspects of this model could be successfully applied to our community, applying computational thinking and modeling in the social and ecological sciences, especially with new models of funding potentially on the horizon (will [decentralized science](#) become an actual thing?)

In other gateway development news, Staff Research Software Engineer Scott Foster is continuing to lead development on an upcoming feature to synchronize computational models submitted to CoMSES Net with GitHub and vice versa. If you’d like to be included in an initial closed beta test of this feature and help improve its usability and feature set, please contact us.

We also hope to see some of you at the upcoming [13th International Congress on Environmental Modelling and Software meeting](#) in Dublin. Calls for session proposals are due by October 10, 2025. CoMSES Net team members are currently planning a session on using LLMs effectively to augment how we develop and share computational models.

Thanks for being part of CoMSES Net,  
Allen Lee

### **Ten Minute Dialogs: Showcase and Call for Participants**

There are now 50 installments of “[Ten Minute Dialogs](#)”, a series of interviews with social and ecological model authors that focus on a particular model and delve into the purpose, methods, and design decisions. This is an excellent way to hear about interesting research, pick up some inspiration, or find out how people approach and reason through their models—something that is missed reading through papers or code. The full series is available on the [CoMSES Net YouTube channel](#).

Up until now, the series has been diligently produced and hosted by Mohsen Shahbaznezhadfar, but we are now looking for a volunteer to carry the torch and continue what we believe to be a valuable endeavor. This would entail recording a discussion with one or more authors about their model with creative control. All series installments are published on the CoMSES Net Youtube channel and featured on the homepage of [comses.net](#). If hosting interests you, or would like to talk about a model you created, please reach out to us at [editors@comses.net](mailto:editors@comses.net).

### **Updated Peer Review & Call for New Reviewers**

We are excited to announce a series of updates to the [CoMSES Peer Review system](#) implemented since the release of the summer digest! Firstly, DOIs are now automatically generated for published and reviewed models, a rapid acceleration from the previous (up to) 24-hour time frame. Additionally, peer-reviewed models are now featured prominently on the newly redesigned home page! Lastly, the workflow of the peer review process has been streamlined and smoothed, reducing redundancies namely in the elimination of multiple releases created for different versions of the same model.

We sincerely hope that these updates improve modelers' and peer reviewers' experiences with our peer review process, and look forward to working on this process further with you all - if you have gone through the peer-review process and have suggestions or feedback you would like to share we are always open to accepting this - especially if improvements to the process are needed. Thank you for being a valued part of the CoMSES.Net community!

Regarding opportunities for future improvements to the efficiency of this system, **we are always [looking for additional peer reviewers to join our reviewer pool](#)**. We welcome experienced modelers and coders proficient in any coding languages, though we particularly welcome **python** and **NetLogo** users - these languages are in high demand at this time. [Peer reviewers for CoMSES.Net](#) ensure peer-reviewed models meet FAIR4RS and good practice standards, aiming to provide CoMSES users with accessible, readable, and readily usable, quality models for the social sciences. See further details on the peer review process and expectations for peer reviewers on [this page](#). Those interested in becoming peer reviewers are encouraged to update their CoMSES membership profiles to full member status (if not already), and then complete [THIS FORM](#) for inclusion in the peer reviewer pool.

Amy Rieth, *Peer Review Coordinator*

### Keep Your CoMSES Profile Updated

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 while you are at it, why not 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. If you register your affiliation on your profile page, it will help us fill out our new member profile map: <https://www.comses.net/about/metrics!>

### Special Event Announcement: LEVERAGE Global Forum and Feedback Workshop.

If you are involved in the medical or health research spaces then the following special opportunity may be of interest to you - virtual participation is available!

**What:** The LEVERAGE Executive Group, the System Dynamics Society (SDS), the Open Modeling Foundation (OMF), the International Society of Systems Science (ISSS) and the International Network for Social Network Analysis (INSNA) invite you to the [LEVERAGE Global Forum and Feedback Workshop](#).

Join us and hear from the presidents of four leading international scientific societies in systems science, leaders from the WHO, The Lancet and the World Obesity Federation, as well as leading experts and learners in commonly used systems methods from around the world to share diverse experiences in applying, writing, reviewing and advocating systems approaches in public health.

LEVERAGE aims to advance the development and application of systems

science methods in public health by creating the 1st guidelines for writing and reporting the development, implementation and evaluation of health interventions and policies underpinned by commonly used systems approaches.

Please contact CoMSES Administrator Charlotte Till [[Charlotte.Till@asu.edu](mailto:Charlotte.Till@asu.edu)] if you would like to be sent a copy of the event programme for more information. Following invited talks and a panel discussion, we will present the drafted guidelines and welcome your feedback.

**When:** 21st October, British Summer Time 13:00 - 17:00 (welcome lunch for in-person participants starting at 12 midday)

**Where:** In-person participants: Bristol City Hall, Bristol, United Kingdom.  
Online participants: An online link will be shared after registration.

**For Who:** Experts, learners, users, publishers (journal editors), and research funders of System Dynamics, Agent-Based Modeling, Social Network Analysis, or other systems-oriented methods, who work in health research and policymaking. All academic backgrounds and health research topics are welcome.

How to register:

Please register your interest here. Because space is limited, especially for in-person participation, we strongly encourage early registration. All in-person participants will receive lunch and refreshment.

After we receive your registration, we will confirm your place as quickly as possible! For any questions, reach out to Dr. Remco Peters ([remco.peters@bristol.ac.uk](mailto:remco.peters@bristol.ac.uk)) or the LEVERAGE project lead Dr. Bai Li ([bai.li@bristol.ac.uk](mailto:bai.li@bristol.ac.uk)).



## 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/X](#) or subscribing to our [RSS feeds](#).

## Upcoming Deadlines

### Call for papers: 14th Computing Conference 2026

**Dates:** July 9-10, 2026; Submission Deadline October 1, 2025

The Computing Conference 2026 provides an international forum for researchers, scholars, and practitioners to present and discuss the latest advances in computing. Since its inception in 2013, the conference has fostered rigorous academic exchange, bringing together participants from over 60 countries to explore both theoretical foundations and applied innovations. It offers a platform for the dissemination of peer-reviewed contributions, critical dialogue across disciplines, and the development of frameworks that influence future inquiry in computing.



The Computing Conference 2026 will be assembling a program that:

- Catalyzes discussion and debate on the most urgent and compelling challenges in computing.
- Prioritizes real collaboration, with sessions and networking especially designed to turn presentations into partnerships.
- Spotlights the breadth of computing's frontiers—from technical breakthroughs to societal applications.

Computing Conference 2026 is more than an academic gathering - it's where the future of computing is mapped across architectures, AI, vision, data, intelligent systems, and societal applications.

### Computer Vision Conference (CVC) 2026

**Dates:** May 21-22, 2026; Submission Deadlines: (Round 1) October 1, 2025, (Round 2) November 1, 2025

At a moment when computer vision is reshaping industries and driving new frontiers in science and technology, we invite you to contribute your research, insights, and innovations to the Computer Vision Conference 2026 <https://saiconference.com/CVC>.

On May 21 - 22, 2026, join leading researchers, engineers, and practitioners to decode both the theory and applications driving the next wave of discovery in Computer Vision. CVC 2026 brings together a world-class community from more than 50 countries to:

- Catalyze discovery by presenting cutting-edge advances in vision, AI, and data-driven systems.
- Turn research into impact through sessions designed to foster collaboration across disciplines and sectors.
- Map the future of computer vision - from foundational science to the next generation of applied breakthroughs.

*Topics include but not limited to:*

- Machine Vision and AI Models - Deep learning, vision transformers, foundation models, self-supervised learning, and explainable AI.
- Image Processing & Analysis - Image/video enhancement, object detection, scene understanding, and photorealistic synthesis.
- Data Science for Vision - Predictive modeling, anomaly detection, transfer learning, and generative models.
- Computer Vision Applications - Autonomous vehicles, AR/VR, robotics, medical imaging, Cloud & Edge-enabled Vision Systems, and smart cities.

## Model Library

### Newly Reviewed

3 models passed CoMSES's [peer review process](#) this quarter!

CoMSES is always looking for new model reviewers! As such we welcome your self nomination. If you would like to join our reviewer network, we invite you to do

so by creating a peer reviewer profile under “Edit Profile” on your [comses.net](https://comses.net) account and [completing this short form](#).

## New Model Uploads

Sixteen 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:

- Examining the [co-evolution of electric vehicle adoption, innovation, and policy incentivizing](#)
- Simulating the experience of [victims/survivors within Domestic Abuse support system](#)
- Evaluating the [lifecycle, movement, and satisfaction of teachers within an urban educational system](#)
- [Maximizing profit when selecting trading partners amongst farmland communities](#)
- [Managing resource use and environmental degradation between AI and human agents](#)

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/X](#) and [RSS](#) feeds.

## Most Downloaded Models

Published models were downloaded a total of 1826 times this quarter, across 683 unique codebases. Here are the top five:

1. [Pedestrian Model](#) by Dana Kaziyeva (26 downloads)
2. [The Informational Dynamics of Regime Change](#) by Dominik Klein (24 downloads)
3. [Opportunity cost of walking away in the spatial iterated prisoner's dilemma](#) by Luke Premo (21 downloads)
4. [An Agent-based Model of Farmland Transfer](#) by Peng Jiang (21 downloads)
5. [Development of coral reefs under climate change impacts and adaptation options](#) by Nina Preußler (18 downloads)



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