

# CoMSES Digest: Summer 2019

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## Editor's Note

Greetings again from the CoMSES Network! This issue of the CoMSES Digest focuses on four CoMSES efforts. First, CoMSES will build on the virtual conference it hosted last year. Second, it will again host its [Winter School](#) at Arizona State University in January (wisely timed to occur in January, when Arizona is a lovely respite from other places' winter weather).

Third, CoMSES is moving forward with its connections to other professional groups with its links to the [Open Modeling Foundation \(OMF\)](#). Finally,

CoMSES is providing another means to ensure transparency and conformance to best practices: the [Open Code Badge](#).

We hope your summers- or, for our southern colleagues, winters- are going well. If you are on a break from teaching, it's a great time to upload models and design your submission to the CoMSES Virtual Conference- abstracts are due August 30th!

Best,  
John T. Murphy

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## CoMSES News

### **CoMSES 2019 Virtual Conference**

CoMSES Net is hosting its third virtual conference, CoMSES 2019!

We welcome presentations dealing with agent-based modeling of social, ecological and social-ecological systems, as well as methodological issues in the context of agent-based modeling. This conference will occur online. During the conference, October 7-25, talks will be available for viewing on a special section of our Discourse forums. Q&A will also take place online during this period, as participants can engage with speakers on the forums.

If you are interested in presenting at CoMSES 2019, please do the following:

1. Submit a presentation abstract that includes title of your presentation and a description of your abstract.
2. Record yourselves giving a talk with length no more than 12 minutes. You can film yourself giving a talk, have a narrated slide show, or pursue a more ambitious edited video which combines speaking, slides, animations, or model simulations. It is now possible and relatively easy to record a high quality presentation with [modern video editing software](#).
3. During the conference, participants may ask you questions, and you will be expected to respond to questions raised by your talk. You will automatically receive emails when users post questions or comments on your presentation. Only registered [comses.net](#) members will be able to

- post questions or comments.
4. During the conference, please take the time to view other presentations and interact with the other speakers. Since the conference runs over a three week period you will be able to view all the sessions! No more are we constrained by parallel sessions with interesting talks.
  5. Make sure your [comses.net profile page](https://www.comses.net/profile) is up to date by the time of submission.

The deadline for presentation abstracts is Friday August 30, 2019.

The deadline for video presentation submissions is Monday, September 30.

For more information see <https://www.comses.net/conference/2019/>

## **Winter School on Agent-Based Modeling and Social-Ecological Systems**

CoMSES Net is hosting its annual Winter School on Agent-Based Modelling and Social-Ecological Systems January 6-10, 2020 in sunny Tempe, Arizona, USA.

### **Purpose of the Winter School**

The overall aim of the winter school is for participants to learn about the opportunities and challenges of agent-based modeling of social-ecological systems. Participants will engage intensely with a few comprehensive models, learn best practices in doing modeling, and learn about different modeling challenges across the various social and natural sciences.

### **Course Content**

The winter school has two main components: 1) lectures and 2) project work. Lectures will introduce participants to different concepts in the social and natural sciences critical for modeling social-ecological systems, such as human behavior, collective behavior, hydrology, and land cover change. Students will also learn and apply modeling best practices for reproducibility, model documentation, and model analysis. Participants will be introduced to various stylized agent-based models used in actual research projects on social-ecological systems. Groups of participants will chose one of the models and adapt, expand, and analyze the model to better understand the impact of

particular assumptions on the overall outcome of the social-ecological system. These models are implemented in NetLogo and so participants must be able to read and write NetLogo code.

Application deadline: August 30, 2019

More details at: <https://complexity.asu.edu/winterschool>

## **CoMSES Net and the Open Modeling Foundation**

CoMSES Net is collaborating with other scientific modeling organizations around the world to plan an international consortium that would develop and administer a common body of standards and best practices for modeling across the social, ecological, environmental, and geophysical sciences. This consortium is being organized under the auspices of the Open Modeling Foundation. The goal of the OMF is to coordinate the adoption of standards, developed by the modeling community, to help make these increasingly important cybertools more widely accessible, understandable, replicable, and interoperable. The OMF was proposed at an informal meeting of five scientific networks in the summer of 2018. This collaboration has now grown to involve 14 organizations representing nearly 12,000 scientists. This year, collaborative proposals were submitted to the US National Science Foundation and the Alfred P. Sloan Foundation to fund information exchange and planning workshops, proof-of-concept modeling software, and cyberinfrastructure to help modelers more easily implement standards based modeling. CoMSES Net Director Michael Barton has spent the first half of 2019 speaking with scientific groups about the OMF initiative, and organized a strategic planning workshop for the European science community in May, hosted by the Institute for Advanced Sustainability Science in Potsdam, Germany. More workshops are planned, especially if funding proposals are successful. A website and a draft of an organizational charter are in development to encourage community discussion and participation. We hope CoMSES Net members will actively contribute to the creation and activities of the Open Modeling Foundation as this initiative moves forward.

## **Open Code Badge**

Building on the efforts of the Open Science Foundation we established an Open Code badge that journals could use to award publications which models

have been archives in an open access, trusted digital repository that adheres the best practices for software citation. More information can be found at <https://www.comses.net/resources/open-code-badge/>.

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## From the Forums

Our "From the Forums" section will be discontinued since our new [Discourse forums](#) allow you to self-subscribe to topics you of interest! Please feel free to visit the forums and customize your notification preferences there to continue receiving forum content automatically - you can be notified on a daily, weekly, or monthly basis. To do this, login to our forums, click on your avatar on the top right, and select the "Preferences" gear to go to your Account Preferences. From there you can customize how often you are notified under the "Emails" and "Notifications" sections and which topics you want to track. [Let us know](#) if you run into any issues!

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## Calendar of Events

### Conferences and Workshops

Rostock Retreat on Simulation

July 1-3, 2019

Rostock, Germany

<https://www.comses.net/events/507/>

2019 International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction and Behavior Representation in Modeling and Simulation

July 9-12, 2019

Washington DC, USA

<https://www.comses.net/events/510/>

IC2S2 2019 – 5th International Conference on Computational Social Science

July 17-20, 2019

Amsterdam, The Netherlands

<https://www.comses.net/events/506/>

ABM and Simulation session at the INQUA 2019 conference in Dublin

July 24-30, 2019

Dublin, Ireland

<https://www.comses.net/events/500/>

Modeling Emergence: Computer Simulation in the Social Sciences

August 27-28, 2019

University of Massachusetts, Amherst

<https://www.comses.net/events/535/>

Computational Social Science Symposium

September 2-4, 2019

Zurich, Switzerland

<https://www.comses.net/events/526/>

Workshop on Cognitive Modules for NetLogo @ SocSim 2019

September 22, 2019

Mainz, Germany

<https://www.comses.net/events/530/>

The International Society for Ecological Modelling Global Conference 2019

October 1-5, 2019

Salzburg, Austria

<https://www.comses.net/events/524/>

The Computational Social Science Society of the Americas 10th Anniversary  
International Conference

Oct 24 – 27, 2019

Santa Fe, NM

<https://www.comses.net/events/529/>

22nd International Conference on Principles and Practice in Multi-Agent  
Systems, PRIMA

October 28–31, 2019

Torino, Italy

<https://www.comses.net/events/536/>

33rd European Simulation and Modelling Conf. - ESM'2019

October 28-30, 2019

Palma de Mallorca, Spain

<https://www.comses.net/events/520/>

Winter Simulation 2019

December 8-11, 2019

National Harbor, Maryland

<https://www.comses.net/events/519/>

## **Courses**

High Performance Computing and Data Science Summer Institute @ San Diego Supercomputer Center

August 5-9, 2019

San Diego Supercomputer Center, USA

TACC INSTITUTE - Machine Learning Foundations

August 12th-15th, 2019

Texas Advanced Computing Center, USA

<https://www.tacc.utexas.edu/education/institutes/machine-learning-foundations>

Statistical analysis of spatial data in agro-environmental research

August 26-30, 2019

Como, Italy

<https://www.comses.net/events/540/>

BEHAVE Summer School 2019 on “Agent-Based Modelling for Social Scientists”

September 2-11, 2019

Brescia, Italy

<https://www.comses.net/events/525/>

Multi-platform International Summer School on Agent-Based Modelling & Simulation

September 15-26, 2019

Montpellier, France

<https://www.comses.net/events/531/>

International Summer School on Modelling Food Security

September 8-14, 2019

## Model Library

### New Model Uploads

New models this quarter again span a wide range of topics, from economic theory (de Weerd's model of one-shot negotiation) to urban movement and evacuation (Taillandier's model of the evacuation of Rouen), and from trade in the Roman world (Brughmans' MERCURY extension) to the diffusion of a vegetarian diet (also by Taillandier). Other topics include epidemiology in human and animal populations (a model of St. Anthony's flu, by Lisa Sattenspiel; a model of the spread of measles in an indigenous population in 1800's California, by Carolyn Orbann; and a model of vaccination decisions in defense of blue tongue virus, by Jaap Sok and Egil A.J. Fischer), and animal migration and population dynamics (Grimm's model of sea turtle migration and van Villet's model of wolves in the Netherlands). Various social dynamics are represented, including social group formation (Gilbert's 'Collectivities', political uprising (Dornschneider and Edmonds's model of the Arab Spring), and group persistence and longevity (Hofstede's GRASP World), and communication and empowerment (Marcos Aurélio Santos da Silva's models, one at an abstract level and one situation in a political context in rural Brasil). Models of water management (Pedro Phelipe Gonçalves Porto's Hydro-ABM), rural supply chains (Polhill's RISC model), real-estate markets (de Koenig's RHEA), labor-sharing at the household level (Baeza-Castro), and residential energy use (Niamir's BENCH) address resource use, landscapes, and policy decisions at community and individual scales. As is common, most models are in NetLogo, but a few other platforms- notably SocLab and Gama, but also non-ABM-platform models in R and Java- are represented as well.

To see the most recently uploaded models, visit <https://www.comses.net/codebases/>

### Most Downloaded Models

The most-downloaded models include several that have appeared in the top-five list before (Rebaudo's SimAdapt, Al Irsyad's ARISE, and Dubbledoer's flood



risk models), and two new arrivals, Josh Watts's model of hurricane evacuation (CHIME), and Giovanna Sissa's model of environmental awareness. But the list beyond these top five is also informative. In the first issue of CoMSES Digest, the most downloaded model had been downloaded 28 times. In the past quarter, 81 different models were all downloaded more than 28 times. Of these, 29 were downloaded more than 40 times, and 19 were downloaded more than 50 times.

1. (87 downloads) [SimAdapt](#) by [François Rebaudo](#).
2. (81 downloads) [Agent-based Renewables model for Integrated Sustainable Energy \(ARISE\)](#) by [Muhammad Indra Al Irsyad et al.](#)
3. (80 downloads) [CHIME ABM Hurricane Evacuation Model](#) by [Joshua Watts](#).
4. (76 downloads) [A model of environmental awareness spread and its effect in resource consumption reduction](#) by [Giovanna Sissa](#).
5. (73 downloads) [An Agent-Based Model of Flood Risk and Insurance](#) by [J Dubbelboer et al.](#)

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