CoMSES Digest: Winter 2021

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Editor's Note

Season's greetings from the CoMSES.Net team! Although we have spent most of the year working from home and interacting over video chat services, there are a lot of updates and new opportunities for our members.

The CoMSES digest will now feature a guest editor for each issue. The digest (which you are currently reading) is a quarterly update for CoMSES members featuring news about the organization and updates on agent-based modeling jobs, the model archive, and conferences. The guest editor of the digest is only responsible for writing an introductory note on a topic of their choosing. Past editors have chosen to write about the current state of the computational modeling field or to describe current projects. If you would like to be a guest

editor, please contact us at editors@comses.net.

As the first guest editor, I would like to bring a new NetLogo tutorial to your attention. This tutorial was developed by Claudine Gravel-Miguel and myself while teaching a recent ABM course. The tutorial describes the modification of the Wolf-Sheep predation model into a new model based on the Game of Thrones books and television series. The Game of Thrones agent-based model includes a GIS map of Westeros, networks between the ruling families, White Walkers, and even dragons. It is meant to be a fun, yet instructive demonstration of NetLogo's functionality. The completed model can be downloaded here from the CoMSES model library.

Don't forget! Elections for the CoMSES Executive Board are now open. American politics have demonstrated in recent years how important voting can be, although this election should prove to be less contentious. For all full CoMSES members, please submit your votes for two executive board members by December 31 (you will find a link to vote in an email from CoMSES.Net from the beginning of this month).

Best regards,
Sean Bergin, Kelly Claborn, and Laura Swantek, CoMSES.Net Guest Editors, Arizona State University

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CoMSES News

CoMSES.Net is Hiring

Join CoMSES.Net and help us build software tools that support open, transparent, reusable, and interoperable scientific computation in the study of complex social and natural systems. We have an opening for a junior front-end software engineer; this entry-level position will help the successful candidate grow in their ability to build functional, intuitive user interfaces and data visualizations as well as robust and scalable backend web services. As part of the ASU College of Global Futures, our mission is to improve the ways we understand and collectively navigate our increasingly complex world.

For more information, and to apply, please visit the full job announcement here**.**

CoMSES.Net is a Founding Member of the New Open Modeling Foundation

Michael Barton, CoMSES Net Director

On December 6-8, CoMSES.Net coordinated a meeting, attended by representatives of modeling science organizations around the world, to formally establish the Open Modeling Foundation. The aim of the Open Modeling Foundation initiative is to "enable open and ethical modeling efforts across domains of human and Earth systems sciences and engineering to work together to provide an integrated representation of the complex world in which we now live. This vision can be realized through a common suite of ethics, standards, protocols, and best practices that enables modeling scientists to share knowledge and build on one another's research." To that end, participants established the Open Modeling Foundation as "an alliance of modeling organizations that coordinates and administers a common, community developed body of standards and best practices among diverse communities of modeling scientists." (OMF Charter).

66 individuals, representing 50 modeling science organizations, attended this hybrid meeting (in-person in Washington, DC and remote on-line). Participants came from North and South America, Europe, Asia, and Australia. Michael Barton, CoMSES.Net Director, chaired the meeting and Marco Janssen, CoMSES.Net co-Director, served as the official CoMSES.Net representative. The Community Surface Dynamic Modeling System (https://csdms.colorado.edu), Decision Support System for Agrotechnology Transfer (https://dssat.net); and Analysis, Integration, and Modeling of the Earth System (https://aimesproject.org) co-organized the meeting.

Beginning with drafts developed in a series of planning workshops over the past three and a half years (reported in previous Digest issues), meeting participants discussed and proposed amendments to a Charter and Values Statement, specifying the vision, mission, values, internal organization, and governance of the Foundation. An important goal of the Open Modeling Foundation is to support and enable open, transparent science. Hence, the business of the meeting was conducted on an on-line science gateway and collaboration environment, developed on the GitHub platform by the CoMSES.Net cyberinfrastructure team. Using this environment enabled all participants to contribute to discussions and make suggestions, and for organizational representatives to see, provide input, and vote on proposed amendments to the Charter and Values Statement. Moreover, all these activities are archived in this collaboration environment and transparently accessible to anyone.

After an intensive but collaborative two days, the Charter and Values Statement were adopted by a vote of the organizational representatives. Representatives elected Barton to a five-year term as Executive Director and agreed on plans for elections to the Executive Committee. They also established frameworks for creating initial Working Groups for Standards, Certification, and Education/Outreach; and established the Affiliated Early Career Scholars Association and Open Modeling Foundation Affiliates for individuals. To date, 38 modeling science organizations have joined the Open Modeling Foundation as founding members or provisional members (awaiting final approval from a governing body), and the Foundation welcomes additional organizations that would like to join this collaborative endeavor. There is work ahead to hold elections, organize Working Groups, set up the Early Career Scholars and Affiliate groups, complete supporting documents for the Charter and Values Statement, and expand the science gateway to facilitate these activities and more. The CoMSES.Net community can be proud of the role it played in creating this international organization for modeling science.

The approved Open Modeling Foundation Charter and Values Statement, along with archived meeting proceedings can be found at http://openmodelingfoundation.github.io.

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

International HPC Summer School 2022
Submission Deadline: January 31, 2022
Graduate students and postdoctoral scholars from institutions in Canada, Europe, Japan, and the United States are invited to apply to participate in the 12th International HPC Summer School, June 19-24, 2022 in Athens, Greece.
https://www.comses.net/events/618/

Social Simulation FesT 2022 - Call for Session Proposals

Submission Deadline: January 17, 2022

Social Simulation FesT will return in 2022, making the event a tradition (see https://www.socsimfest.eu/*). This is a call for session proposals at Social Simulation FesT 2022. Each SocSimFesT day in May we imagine having 3 sessions and an inspirational talk. Each session will be 1.5 hours in duration, in which the session organizers are responsible for arranging the content of the session.*

https://www.comses.net/events/617/

CFP: MABS 2022 – The 23rd Multi-Agent-Based Simulation workshop (hosted at AAMAS 2022)

Submission Deadline: January 30, 2022

MABS 2022 – The 23rd Multi-Agent-Based Simulation Workshop hosted at AAMAS 2022 (Auckland, New Zealand) May 9-10, 2022.

https://www.comses.net/events/616/

Model Library

Newly Reviewed

Three 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:

- The dynamical relationship between individual needs and group performance: A simulation of the self-organising task allocation process formalizes Deci & Ryan's self-determination theory (SDT) theory into an ABM creating a framework to study the social dynamics that pertain to the mutual relations between the individual and group level of team performance. Specifically, it aims to answer how the three individual motivations of autonomy, competence, and belonging affect team performance. (Shaoni Wang)

- Virus Transmission with Super-spreaders is an adaptation of the canonical Virus Transmission on a Network model and allows the exploration of various mitigation protocols such as testing and quarantines with both homogenous transmission and heterogenous transmission. (J Applegate)

- Dynamic Value-based Cognitive Architectures (DVCA-model) uses the psychological theories on values by Schwartz (2012) and character traits by McCrae and Costa (2008) to create an unique trait- and value prioritization system for each individual. The DVCA-model allows study of the dynamics of individual value prioritizations under a variety of internal and external perturbations over extensive time periods. (Bart de Bruin)

New Model Uploads

26 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:

- simulating the cost of social care in an ageing UK population

- showing how (dis)information spreads based on perceived trustworthiness

- an exploration of university connectivity, illustrating the effects that personality types and student organizations have on friendships in a university setting

- a tool for plastic and debris tracking in oceans

- tracking COVID19 spread with digital contact tracing

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 13,398 times this quarter, across 926 unique codebases. Here are the top 5:

1. Agent-based Renewables model for Integrated Sustainable Energy (ARISE) by Muhammad Indra Al Irsyad, Anthony Halog, Rabindra Nepal (96 downloads)

2. MOOvPOPsurveillance by Aniruddha Belsare, Matthew Gompper, Joshua J Millspaugh (84 downloads)

3. Aqua.MORE by Lisa Huber, Nico Bahro (83 downloads)

4. MOOvPOP by Aniruddha Belsare, Matthew Gompper, Joshua J Millspaugh (79 downloads)

5. TeleABM by Yue Dou (71 downloads)