

MultiSector Dynamics Community

Welcome to the newsletter of the **MultiSector Dynamics Community**

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Hello MultiSector Dynamics (MSD) Community! Welcome to the MSD newsletter. The newsletter will be published on an as-needed basis to communicate items of general interest to the community and is part of a broader communications strategy that will include a website, periodic webinars, and listservs for specific topics. Other options such as blogs and Slack channels for specific joint activities have been suggested and will be developed as desired, but for now, we just want to get started with the basics.

www.multisectordynamics.org

News on MSD Community Development

The idea for a community of practice on MultiSector Dynamics of complex systems is longstanding. A 2016 workshop explored preliminary concepts. During the November 2018 DOE Earth and Environmental System Modeling (EESM) PI meeting, a closing session in the MSD track involved around 100 participants from all components of the meeting who made numerous suggestions. Following this, many of you provided input through a questionnaire that was circulated in February-March 2019. The results were presented in an MSD community webinar on June 6, 2019. Since that time, many different individuals have been working to implement the suggestions. The July 2019 Energy Modeling Forum MSD Workshop included a session on research collaborations and provided a convening opportunity for the principal investigators of several of DOE's MSD projects, DOE program managers, and additional community representatives. These individuals set the overall direction for a number of initial steps which are being implemented as described in this newsletter. These steps initially focus on the community of scientists associated with DOE's EESM program but are designed to incorporate a much broader set of individuals and activities sponsored by others over the coming year. Initial actions include (✓=complete and □ =ongoing):

✓ Identify the core elements of leadership of the MSD community, including (1) a Scientific Steering Group (SSG), (2) a Principal Investigators (PIs) advisory group, (3) a sponsor consultation group, and (4) the MSD community facilitation team

✓ The PI advisory group includes representatives from several of the main DOE MSD projects and will be expanded as the community develops

✓ The sponsor consultation group draws on staff from DOE's EESM and related programs as convened by Bob Vallario but will be expanded as the community grows

✓ The MSD facilitation team includes Erwan Monier, Richard Moss, and Pat Reed, assisted by PostDoc Antonia Hadjimichael and Grad Student Shuaiqi Wu

✓ Develop a Terms of Reference for the SSG, appoint initial members, and hold regular meetings to work on near term community objectives

✓ The first cohort of SSG members includes Nathalie Voisin (PNNL) and Klaus Keller (Penn State) (co-chairs), Megan Konar (UIUC), Robert Link (JGCRI), Jordan Macknick (NREL), and Jen Morris (MIT)

✓ The SSG has held an initial meeting and will gather virtually on a monthly basis

□ Representatives from MSD working groups will be added to the SSG as soon as the working groups are established (see next section of the Newsletter)

□ Meet a number of near-term objectives in 2019 and 2020 (what could be termed an initial Community Plan) including

□ Facilitate MSD communications (both internal and external) including a website, listservs, a newsletter, and other mechanisms

□ Establish several working groups based on interest of community members

□ Draft and publish a white paper/journal article that describes MSD as a field using a facilitated process that ensures community input

□ Expand the scope and membership of the MSD community by through a session or set of coordinated panels at AGU 2020

□ Plan for the long term, including potential community endeavors such a periodic community meeting and journal focused on MSD research

Establishing MSD working groups

One of the recurring requests of MSD researchers is formation of topically-focused working groups to accelerate collaboration and progress. Working Group activities will vary, depending on their focus, but could include developing a shared scientific agenda, coordinating model experiments, sharing data, modeling, and analysis tools, and preparing a publication. Participation in a WG is voluntary and the activities pursued need to align with the interests of members and be considered a community service activity.

In response to a call for proposals sent to all of the individuals who we have currently been able to identify, 11 MSD working groups have been proposed. While there is some overlap in topics, this represents a strong level of interest and enthusiasm. The titles of the proposed groups include:

- Multisector Impacts of Emerging Energy Sector Trends
- Facilitating FAIR Data in the MSD Community
- Human System Modeling in MSD
- Uncertainty Quantification and Scenario Development
- Urban Risk and Resilience: an MSD group
- Historical Evaluation of Human-Earth System Models
- Novel Approaches for Dynamic Water Demand Modeling
- Artificial Intelligence in MultiSector Dynamics (AI-MSD)
- MSD Education and Student Engagement
- Climate Impacts on Renewable Energy and Water Resources
- Urban Systems Working Group

Members of the SSG and facilitation team are reviewing these proposals and are developing a strategy to formally establish a relatively small number of formal groups, while encouraging other groups over the long term. Please stay tuned for further information!