Workshop on Research Challenges in Modeling & Simulation for Engineering Complex Systems

National Science Foundation
4201 Wilson Boulevard, Arlington VA 22230, Room 375
January 13-14, 2016
Agenda

Wednesday, January 13: Generating and Organizing Ideas

The goal of the first day is to collect and consolidate thoughts concerning important research challenges that would be suitable for inclusion in a consensus-driven M&S research agenda. The inputs to this activity include read ahead materials, short write-ups developed by workshop participants, and presentations on application areas where advances in M&S can have a significant impact. Each break out session includes four parallel sessions, one for each technical theme (conceptual models, computational challenges, uncertainty and fidelity issues, and model/software reuse)

7:30	Registration / breakfast
8:30	Welcome / Introduction, Chris Paredis, National Science Foundation and Richard Fujimoto, Georgia Institute of Technology
9:00	"Gigatechnology: Developing Sustainable Urban Infrastructure to Solve Gigaton Problems," John Crittenden, Georgia Institute of Technology
9:30	"Increasing the Impact of M&S on Health and Healthcare: Formidable Challenges and Realisable Opportunities," Donald Combs, Eastern Virginia Medical School
10:00	break
10:30	Break Out 1 (Conceptual Models; Computation; Uncertainty/Fidelity; Reuse) *Goal: Generate M&S research challenges related to the break out group. Intended to be a brainstorming session, the goal is to generate many ideas.*
12:00	lunch
1:00	"Some Lessons Learned from DARPA's Adaptive Vehicle Make Program" Michael Yukish, Penn State University
1:30	"Three Viewpoints for Analysis and Synthesis in Systems Engineering," Steven Jenkins, Jet Propulsion Laboratory
2:00	"Modeling of Complex Systems in the Complex Defense Enterprise" (Edward Kraft, U.S. Air Force)
2:30	break
3:00	Break Out 2 (Conceptual Models; Computation; Uncertainty/Fidelity; Reuse) *Goal: Continue generation of research challenges, cluster and consolidate these challenges into four or five major research challenges*
4:30	Day 1 wrap up
5:00	Mixer / Reception (Front Page Restaurant)

Dinner: on your own; workshop participants are encouraged to self-organize to continue discussions conducted throughout the day.

Thursday, January 14: Building Consensus Around a Common Research Agenda

7:30	breakfast
8:30	Reports from Day 1 break out sessions: summarize major research challenges (15 minutes per break out group); discussion
10:00	break
10:30	Break Out 3: (Conceptual Models; Computation; Uncertainty/Fidelity; Reuse) *Goal: Complete discussions from the first day; develop descriptions of sub-challenges within each major challenge, develop recommendations to be included in the workshop report.*
12:00	lunch
1:00	Break Out 4: (Conceptual Models; Computation; Uncertainty/Fidelity; Reuse) *Goal: Wrap Up discussions. Each break out session should develop an outline for one chapter of the workshop report and develop writing assignments as needed to complete the report after the workshop. Discuss next steps (e.g., sessions in conferences or other meeting or other ways to further disseminate workshop results).*
2:30	break
3:00	Reports from Day 2 break out sessions (10 minutes each); discussion
4:00	Adjourn, except workshop steering committee and writing leads
4:00	Planning meeting (steering committee and writing leads only)
4:30	End of workshop