

Call for Papers: CompSust 2010
2nd International Conference on Computational Sustainability

Location: Massachusetts Institute of Technology in Cambridge, MA, USA
Date: June, 28th-30th, 2010

Website: <http://www.computational-sustainability.org/compsust10/>

Overview: CompSust10 focuses on computational methods for balancing environmental, economic, and societal needs for a sustainable future. Through talks, discussions, poster sessions, and workshops, the conference program will investigate the major problem domains that impact global sustainability, those technologies and processes that offer the greatest opportunity to increase sustainability in these domains, and the fundamental computational methods that support these technologies and processes. Participants include representatives from national and international research institutions and government agencies.

Problem domains and their corresponding process and technology areas include:

Human built systems and human impact: design, optimization, modeling and impact monitoring of human built systems; transportation, energy and resource management; energy auditing and upgrades; renewable energy sources; mining; housing and infrastructure; urban planning and land use; sustainable communities and cities; methodologies for developing countries and measurement of economic, environmental, and societal impacts (e.g. lifecycle analysis, ecological footprint, general equilibrium modeling).

Ecosystem monitoring and modeling: sensors and sensor networks; models of ecosystem structure and function; species distribution and migration; invasive species; emerging diseases; and ecosystem services.

Ecosystem management: policy and decision making for managing the atmosphere, water, soils, fisheries, forestry, and agriculture.

Pollution production: greenhouse gas emissions, toxic pollutants, and agricultural runoff.

Economics and human behavior (modeling, decision making, management policy and mechanism design): human well-being, poverty and disease, and over-population.

Computational methods include: *Model estimation and machine learning, hidden state and mode estimation, planning and scheduling, model-based reasoning including diagnosis, repair, and maintenance, probabilistic inference, autonomous and multi-agent systems, adaptive sampling, hybrid systems, model-predictive control, decision analysis and optimization under risk, automated design, numerical analysis, cyber-security of critical infrastructure, and social networks.*

Participation:

. Those interested in participating should provide 1) a cover letter explaining why they want to attend, and 2) a 1 to 2 page abstract in .pdf format, summarizing their relevant research. Cover letters and abstracts should be emailed with the subject line "CompuSust10 Participation Application" to compsust10@computational-sustainability.org. The conference will include posters and talks. Submissions will be selected and evaluated based on relevance to the conference goals and topics, quality and maturity of the work , and overall balance across topics. All accepted participants will be able to present a poster.

Doctoral Consortium and Travel Assistance

We will provide partial travel funding for eligible graduate students, post-doctoral researchers, and junior researchers, including junior faculty, who apply for funding through the doctoral consortium. The Doctoral Consortium will feature a session in which accepted graduate students and post docs participate as presenters, while junior researchers participate as mentors and observers.

Those interested in participating should provide 1) a cover letter explaining why they want to attend, 2) a statement of financial need and 3) an extended abstract of 2 pages maximum, in .pdf format, summarizing their relevant research. Cover letters, need statements and extended abstracts should be emailed with the subject line "CompSust10 DC Application" to compsust10@computational-sustainability.org.

Submissions will be selected based on novelty and technical merit; relevance to conference goals and topics, research and geographic diversity, and financial need. For students, preference will be given to those far enough along to have formulated their dissertation topic. See the conference website for details.

Important Dates:

- Early participation and doctoral consortium deadline: May 1st, 2010.
- Notification of early acceptance: May 15th, 2010.
- Late participation and doctoral consortium deadline: May 31st, 2010.
- Notification of late acceptance: June 15th, 2010.
- Conference early registration deadline: June 1st, 2010.
- Conference June 28th – 30th, 2010.

Conference Chairs:

Prof. Brian Williams, Massachusetts Institute of Technology
Prof. Thomas Dietterich, Oregon State University
Prof. Carla Gomes, Cornell University