

Dynamic Data-driven Environmental Systems Science Conference

DyDESS 2014

Nov 5 – 7, Massachusetts Institute of Technology, Cambridge, MA

Call for Papers

Submission Deadline: August 15, 2014 (dydess_submit@mit.edu)

Invitations/Acceptance: September 15, 2014

Registration & Camera Ready: October 15, 2014

Conference Dates: Nov 5 -7, 2014

Location: MIT, Cambridge, MA.

URL: dydess.mit.edu

Submission: send **pdf** paper to dydess_submit@mit.edu in LNCS format as extended abstracts (6 pages) and short papers (12 pages) including figures and references. All papers must contain the email address of the corresponding author. Papers must be in the LNCS format, download the [guidelines](#) and style files for [Latex](#) or [Word](#) (Latex is preferred for typesetting). Papers will be peer reviewed and accepted based on the overall quality of results and novelty of approach. Papers selected for oral or poster presentation must also be presented at the conference for inclusion in the proceedings.

Motivation: Addressing the challenges in environmental sustainability requires an effective integration of sensing, observation and inference with physical, chemical, biological and social models. The necessary integration of data and science is multifaceted and symbiotic with applications from model-based sensing to data-driven modeling. While the attendant issues of predictability, uncertainty and risk reduction are of great interest in multiple areas of science, engineering and mathematics, a rigorous forum to present collective advances has been missing.

Vision: The Dynamic Data-driven Environmental Systems Science (DyDESS) Conference is envisioned as a premier conference coalescing the sciences with computation, systems science, and machine intelligence. It provides a forum for scientists in Engineering and Science in the emerging environmental systems research issues, an opportunity for young researchers to meet leading scientists, and brings together those interested in the Dynamic Data-Driven Application Systems framework for environmental applications. It provides an interdisciplinary forum to help methodology meet application, and to showcase the results obtained from applications and new, promising methodologies.

Scope: DyDESS invites original papers in the effective coupling of data and models for environmental applications, particularly research that integrates both methodology and experiments, suggests new promising methodology, or demonstrates successful application. DyDESS is a single-track conference that includes keynote, oral and poster sessions, and awards for outstanding papers.

DyDESS invites papers in the following areas:

- (a) Sensing, imaging and retrieval for the oceans, atmosphere, space and land that is informed by the environmental context.

(b) Algorithms for modeling and simulation, downscaling, model reduction, data assimilation, uncertainty quantification and statistical learning. Methods that tackle nonlinear and high-dimensional problems are of particular interest.

(c) Methodologies for planning and control, sampling and adaptive observation, and efficient coupling of these algorithms into information-gathering and observing system designs.

(d) Applications of methodology to environmental estimation, analysis and prediction including climate, natural hazards, oceans, cryosphere, atmosphere, land and space.

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