Dana Meadows Award 2015 Announcement of Winners

Announcement Text by Tom Fiddaman, Member of the Dana Meadows Award Committee

The Dana Meadows Award is given for the best paper, by a student, presented at the Annual Conference. The Award was first presented at the Atlanta Conference in 2001, to honor the life and work of Dana Meadows. Dana pursued a long and brilliant career in education and research focused on a systems approach to social and environmental issues. From her contributions to Limits to Growth to her later writings in The Global Citizen, Dana was an inspiration to generations of students and researchers in System Dynamics.

The Dana Meadows Award is instituted by the Society to bring recognition to the very best student work and thereby, to inspire students to contribute to the growing body of theory and applications of System Dynamics inspiration that Dana demonstrated throughout her career.

The Award is funded through an endowment established by the Society, initially by a generous donation from Jane and Allen Boorstein to launch the Award in 2001, and by many subsequent donors whose support the Society gratefully acknowledges. Currently, the winner receives a cash prize of $750 as well as conference registration plus travel expenses (up to a combined maximum of $750).

The members of the selection committee this year were Florian Kapmeier, John Sterman, Krystyna Stave, Özge Pala, Tom Fiddaman, and Richard Dudley, with Joel Rahn presiding.

The DMA Committee receives manuscripts from across the wide spectrum of topics presented at the Conference and seeks to recognize a representative sample of award-worthy papers (that also meet the criterion of excellence). The mix of short-listed topics inevitably varies from year-to-year and a balanced view of award-worthy work can best be seen in the history of winners, rather than in a snapshot of a single-year.

Before announcing the winner let me offer some general comments for the benefit of the many students gathered here. First, I encourage all of you to continue submitting good work. After an initial screening, Committee members read and discuss your manuscripts carefully. In doing so we enjoy a unique and valuable 'window' on current student research, the best of which is very good indeed.

We urge future applicants to consider one piece of advice: when you submit a paper, make sure you first read the Award guidelines very carefully - and stick to the rules as you write your manuscript! Papers that ignore the guidelines, by neglecting to provide a word count, for example, will be deemed ineligible and are screened out of the short-listing process.

This year, the committee recognized two runners-up, which are coincidentally both well-crafted behavioral experiments that address John Sterman's challenge to identify ways to improve thinking about accumulation.

Does Analytical Thinking Improve Understanding of Accumulation?, by Arash Baghaei-Lakeh and Navid Ghaffarzadegan tested subjects on Amazon's Mechanical Turk platform, identifying several interventions, including priming for analytical thinking, that condition performance on stock flow tasks.

Rethinking intuition of accumulation principles, by Chris Browne and Paul Compston explored a set of rich social and multimedia tasks for improving thinking about accumulation in an earth system context.

The 2015 winner is *Information Diffusion through Social Networks: the Case of an Online Petition*, by Mohammad Jalali, Oscar Herrera-Restrepo, Armin Ashouri Rad, and Hui Zhang.

This paper explores strategies that the creators of an online petition might use to drive it to success and influence. The problem space is interesting, because it involves the kind of detail complexity that would often drive a modeler toward an agent based approach, which might yield complementary insights, but greatly complicate model analysis. Instead, through judicious simplifications, the authors develop an aggregate model and compare it to a dataset from a real petition.

The analysis of the model is a technical tour de force. The authors calibrate the model to the data using appropriate (Poisson) statistics, compare the goodness of fit to a simpler Bass diffusion model, and explore information criteria for model selection as well as behavior and errors. Then they develop confidence bounds on the parameters and use them to map the policy responses in the parameter space of the model.

This is not merely an exercise in computation for its own sake; the deep analysis of the model yields insights. It's a good example of balanced process, in which deep understanding emerges from a thorough analysis of a relatively simple model. It's also a good example of documentation for transparency; the authors provide the model, data and scripts needed to reproduce their work in their supplemental material.