

**2017 Cambridge, MA, USA Conference Report for Winter Policy Council Meeting  
February 15, 2018**

Submitted by the 2017 Conference Organizers

**Conference Attendance:** The conference had 527 registrants and 34 guests from 58 countries.

| Conference Year | Members | Students | Authors | New | Registrants |
|-----------------|---------|----------|---------|-----|-------------|
| 2017 Cambridge  | 80%     | 27%      | 55%     | 41% | 527         |
| 2016 Delft      | 69%     | 38%      | 62%     | 38% | 399         |
| 2015 Cambridge  | 66%     | 27%      | 60%     | 34% | 490         |
| 2014 Delft      | 64%     | 28%      | 62%     | 33% | 485         |
| 2013 Cambridge  | 66%     | 23%      | 51%     | 33% | 543         |

**Conference Sponsors:** Conference Partners were Greenwood Strategic Advisors, PA Consulting Group, System Dynamics Group, MIT Sloan School of Management, and Edward B. Roberts, MIT Sloan School of Management. Our Champion Sponsors were Lundberg Family Farms and Ventana Systems, Inc. For a full list of conference sponsors, please see the 2017 [Cambridge Conference website](#).

**Conference Organizers:** Program Chairs, John Sterman and Nelson Repenning; Workshop Chairs, Jack Homer and Hazhir Rahmandad; and Conference Manager, Roberta Spencer worked alongside home office staff members Michael Breslin, Robin Langer, LouAnne Lundgren, Carrie Stickan, and Joan Yanni, as well as many volunteers to make the conference a success.

**Finances:** The 2017 Cambridge Conference surplus was about \$56,000 (this number will change somewhat after the annual review by our CPA). The conference revenue goal was estimated between \$35,000 and \$58,000, with the budget-estimated registration count between 525 and 642. Actual registrations were 527. Revenues from registration were slightly lower than budget expectation, but sponsorship lines were very strong. On the expense side, costs were slightly under the budget estimate.

**Program:** The Business thread had the highest percentage of papers reviewed. Individual thread percentages were as follows on reviewed and accepted papers. The paper rejection rate was 42.5%.

|               |     |                           |    |
|---------------|-----|---------------------------|----|
| Business      | 12% | Learning and Teaching     | 6% |
| Environment   | 12% | Operations                | 5% |
| Methodology   | 11% | Strategy                  | 4% |
| Health        | 11% | Information and Knowledge | 4% |
| Resources     | 9%  | Human Behavior            | 4% |
| Public Policy | 9%  | Security                  | 3% |
| Economics     | 9%  | Stakeholder Engagement    | 2% |

537 submissions were handled through the online system. Submission types included plenary, parallel, poster, workshop, roundtables, meetings, PhD submissions, and other miscellaneous items. We sincerely appreciate the efforts of the hundreds of dedicated conference paper reviewers. Over the past few years, this table below shows how many reviews have been assigned and completed.

| Conference Year | Reviews Assigned | Reviews Completed | % Completed |
|-----------------|------------------|-------------------|-------------|
| 2017 Cambridge  | 1065             | 842               | 79.06%      |
| 2016 Delft      | 950              | 808               | 85.05%      |
| 2015 Cambridge  | 988              | 878               | 88.86%      |
| 2014 Delft      | 1127             | 996               | 88.38%      |
| 2013 Cambridge  | 1086             | 1002              | 92.27%      |

New events in 2017 included a 60<sup>th</sup> Anniversary timeline and infographic, an In Memoriam slideshow followed by “Remembering Jay: A Life on the Frontier. System Dynamics at Sixty,” Convened Discussant Sessions, Classic Case Studies in System Dynamics –A Fireside Chat with Ken Cooper, and an Education Day Event.

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Successful continuing events included the Welcome Reception, Award Ceremonies, PhD Colloquium, Publishing Assistance Workshop, Roundtables, Modeling Assistance Workshop, Thursday Workshop Day including “Getting Started With ... Software” Workshops, PC Meet and Greet, Sunday HPSIG Session, K-12 Poster Display through Creative Learning Exchange, the Model Expo, Exhibitor Demonstrations, Summer School, Red Ribbon Event, Users’ Group Meetings, Spouses’/Family Lounge, and the Newcomer Orientation Session.

### *From the Program Chairs—Lessons Learned and Recommendations for Future Conferences:*

As you know, we have been struggling for years to address the low quality of many of the submissions to and presentations at our conferences. We simultaneously need to raise quality standards so as to attract and retain great work by great people and increase the utility, use, and impact of System Dynamics in both academia and the world of practice, while also welcoming beginners and providing opportunities for everyone to learn and improve their SD and presentation skills.

To address the quality issue, in 2017 we accepted fewer papers than in the past. The acceptance rate for the Boston conference was about 57%. This was the most stringent of any of our conferences, where the acceptance rate has typically been 80% or more. As a point of comparison, acceptance rates in high-quality conferences in many fields are far lower. For example, the top conferences in computer science have acceptance rates of 10-25%, or even lower, whereas we have been accepting more than 80% and often much more. (For data, see e.g. <http://haofengjia.weebly.com/computer-science.html> and <http://www.lamsade.dauphine.fr/~sikora/ratio/confs.php> and <https://www.cs.ucsb.edu/~almeroth/conf/stats/> and <http://pages.cs.wisc.edu/~mihai/conference%20acceptance%20rates.html> and <https://sigchi.org/conferences/conference-history/chi/> among many others.)

To help raise the quality of the plenary presentations, we also implemented two practices that helped:

1. We recruited experienced people with relevant knowledge to serve as discussants for the plenaries. We instructed them specifically regarding the purpose of discussant remarks, the time they had, and slides.
2. We asked all plenary presenters to send their proposed presentation slides to us in advance. Most did so. I (JS) went through these and made detailed suggestions, ranging from font sizes and graphics to length to content. The authors were very responsive and made in many cases significant changes. In some cases we iterated more than once. Those presentations in which the speakers had this feedback were sharper and better received than those in which, for whatever reason, the slides were not made available in advance.

The feedback we received from conference attendees suggests that the quality of the papers and presentations was much higher and was appreciated by the attendees. We recommend that both discussants and detailed pre-conference feedback from the program chairs on all plenary presentation slides be continued.

It was also important to communicate the need and rationale for higher standards to the thread chairs. The thread chairs in 2017 did an outstanding job, and we thank them for their hard work. Consistent with prior experience, we also found, as in past years, that the review system is not helpful and actually increases the workload on the thread and program chairs, as well as causing confusion among submitters. Though there are some exceptions, where reviewers have the knowledge and experience, and take the time to read and review the papers carefully (and thanks to you who do!), in general, the reviews submitted are generally far too short to be helpful to thread/program chairs or authors. In far too many cases the reviewers do not apply the standards that are needed. Reviewers generally do not examine or run the models submitted (for papers with simulations), thus missing many basic problems, nor do they assess the empirical foundation for model structure, parameter estimation, model analysis, and other basic tests. We recommend eliminating the current review system. Two possible replacements are possible: (1) Program and thread chairs review all papers themselves; (2) program chairs select reviewers that are experienced experts in System Dynamics and knowledgeable in the domains addressed by the papers they are asked to review.

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On the author side, we should enforce the documentation standards we have long promulgated: all papers should be fully documented following the standards for SDR. Papers reporting simulation results should be required to include not only the full model documentation but the executable model itself, along with all needed data, control and other files. The Society should provide the program and thread chairs with access to all the major software packages used (e.g., iThink/Stella, Powersim, Vensim, Ventity, etc.) so that the program and thread chairs can open, examine, simulate and test the models.

Although these measures will help, we have found (in three conferences we have organized (2005, 2007, 2017), and from feedback from other program chairs, that it is necessary for the program chairs to read and critically assess every paper submitted. Doing so is time consuming, but that is the duty of program chairs.

To address the second imperative, providing more opportunities for learning, this past summer we ran an experiment to provide additional coaching to help people improve their SD skills. Specifically, we ran “Convened Discussant Sessions” (CDSs), retooling the idea of “Research Sessions” that were introduced at the NYC conference in 2003. We invited all those whose papers were not accepted to participate. In the CDSs, the authors of rejected papers did not present their work (rejected papers cannot be presented); instead, the session leader discussed how the work could be improved.

The CDSs were designed to address several problems:

1. Many people seeking to do SD don't get enough guidance or coaching about standards, methods, presentation/paper format, and other basics.
2. Consequently, many of these people submit work that is not of sufficient quality to be accepted for presentation at our conferences, but would benefit from attending and learning, especially if there are more opportunities for feedback.
3. However, papers that do not meet the basic standards for quality work cannot be accepted for presentation.

We were surprised at the strong interest and turnout; indeed, many attended whose papers were not accepted for presentation attended the conference so as to learn, and many of these attended the CDSs. Also, many besides those whose papers were not accepted attended the CDSs. We held 5 concurrent CDSs, led by Erling Moxnes, Andy Ford, Etienne Rouwette, Bob Eberlein, and Nacho Martinez. They reported attendance of about 25-30 in each session, for a total of about 125-150 people, a large proportion of conference attendees. We asked each for feedback on how it went, and provide their responses below. I (JS) prepared slides that the 5 session chairs were free to use or not as they saw fit; a number customized these for their sessions.

Based on the feedback, we recommend maintaining or even strengthening the quality standards for acceptance and continuing the CDSs in our conferences, including the conference in Iceland.

Finally, although it was not part of the conference, Nelson Reppenning and I organized System Dynamics Summer School week before the conference. The purpose of summer school was to provide opportunities for learning and improvement for people seeking to build their SD skills. We raised significant funds from PWC that enabled us to offer scholarships so that we could increase enrollment and especially encourage participation from people who sincerely seek to learn SD but could not afford to come without financial aid, and take the opportunity here to once again express our thanks to PWC for their generous support.

We had 150 participants from all around the world. We held two tracks, an introductory track (ably led by Len Malczynski and David Ford) and an advanced track (in which Nelson, Rogelio Oliva, and John Sterman taught). We also had guest speakers who presented real-world applications, including Jim Rogers, Hazhir Rahmandad, and Rob Nachtrieb).

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Participant feedback was overwhelmingly positive; participants especially appreciated the focus on modeling, as opposed to learning how to use software. The last words of the great actor, Edmund Kean, are reported to have been “dying is easy; comedy is hard.” Summer school participants, in both tracks, understood that “software is easy; modeling is hard.” We strongly recommend that future summer schools emphasize the science, art and craft of developing great models rather than how to use software.

In sum, to further enhance the quality and impact of our conferences, we should:

1. Further tighten standards for paper acceptance, including for poster papers.
2. Require that all submissions include full documentation, and for papers with models, also the executable model.
3. Provide the program and thread chairs with access to all the major software packages needed so they can test the models submitted.
4. Eliminate the current review system.
5. Program chairs read and evaluate every paper
6. Continue discussants for all plenary sessions, with guidance for discussants from program chairs
7. Require plenary speakers to submit their draft presentations well in advance so program chairs can provide feedback
8. Continue the convened discussant sessions to help those whose papers do not meet the standards for presentation
9. Continue SD summer school with focus on modeling, with introductory and advanced tracks.

We welcome questions and comments.

John Sterman  
Nelson Repenning