System Dynamics Society

2025
Policy Council Meeting

September 24, 2025

9:00 am NYT

CHECK-IN

If you had the time to model any real-world issue, what would it be and why?

QUESTIONS OR COMMENTS

Enter HU in chat OR enter your question or comment

http://bit.ly/SDSpcnotes

2025 Policy Council Meeting

0:05 Welcome & Introduction (Asmeret)
0:05 Motions (Asmeret)
0:20 Conference Location Analysis (John & Rogelio)
0:10 Call for New Initiatives (Eliot)
0:50 Strategic Planning

- Goal Setting (Asmeret)

Adjournment

President’s Welcome

Asmeret Naugle
Sandia Laboratories

- Welcome everyone!

2025 PC Motions Summary (Asmeret)

VOICE VOTE TODAY

- Minutes

ONGOING - electronic voting (webportal.systemdynamics.org)

PASSED (**bold** items passed in or since last meeting)

- **(1164) Motion to update the referral process (Lees)**
- **(1163) Motion to appoint Nici Zimmerman to the Organizations & Bylaws Comm (Allyson)**
- (1161) Motion to accept VP Finance report for FY 2024 (Eliot)
- (1159) Motion to adopt the revised Dana Meadows Fund Charter (Bob)

Motion to Approve Policy Council Minutes

August ISDC, 2025

Moved by …

To approve the Policy Council Meeting Minutes August ISDC, 2025

Conference Location Analysis

John Pastor Ansah
Case Western Reserve

Rogelio Oliva
MIT Sloan School

John Sterman
MIT Sloan School

Impact of ISDC location on conference attendance

Prepared for SD Society Policy Council Meeting
24 September 2025

Rogelio Oliva
John Sterman

System Dynamics Society

Purpose

- We have been asked to present to the PC our analysis examining the impact of ISDC location choice on conference attendance
- We used Society-provided data to explore how conference attendance is affected by factors such Society membership, conference location, the impact of COVID, the shift to the hybrid format, and others.
- Our goal is to help the Society set conference location policies that strengthen our field, including impact, reach, and quality, while ensuring the conferences and Society remain financially strong.

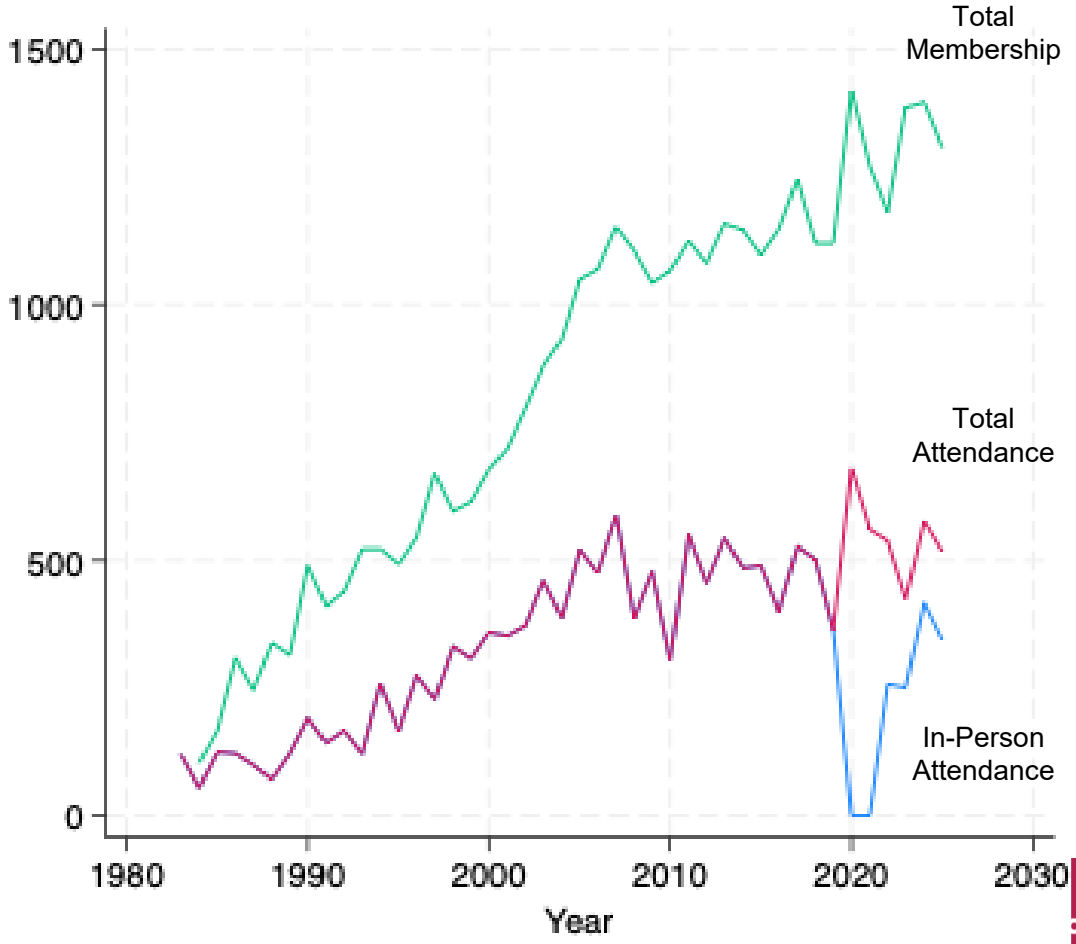
History and Summary of Results

- 2009: We analyzed the data up to that point, finding that conferences in remote locations* significantly reduced attendance and revenue.
- A report based on these findings was submitted to (then) Society president, Erling Moxnes, by a group of past presidents, including Jay Forrester, Dennis Meadows, Rogelio Oliva, Jack Pugh, Mike Radzicki, George Richardson, and John Sterman.
- Consequently, the PC adopted the policy of alternating the conferences between the US and Europe, with the locations chosen to be in or very near major international flight hubs to minimize participant travel time and costs.
- 2020: We updated the analysis through 2019, finding the same significant reduction in attendance and revenue when the conference is held in a remote location.
- 2025: We updated the analysis through 2025 (Boston). COVID and the introduction of the hybrid format complicate the interpretation, but there is strong and highly statistically significant evidence that holding the conference outside Europe or the USA, or in remote European or US locations, substantially reduces conference attendance. The effect is particularly strong for locations outside Europe and the US.
- The results are robust to a variety of alternative specifications.

* Remote locations defined below

Data

- **Growth in total SD Society membership slowed significantly after 2007**
  - 1984-2007: $g \approx 10\%/yr$
  - 2007-2025: $g \approx 0.7\%/yr$
- **Growth in total conference attendance (in-person + online) is lower than membership growth. Flat since 2007.**
  - 1983-2007: $g \approx 6.6\%/yr$
  - 2007-2025: $g \approx$ -0.3%/yr
- **In-person attendance has fallen since 2007**
  - 1983-2007: $g \approx 6.6\%/yr$ (same as total)
  - 2007-2025: $g \approx$ -2.6%/yr



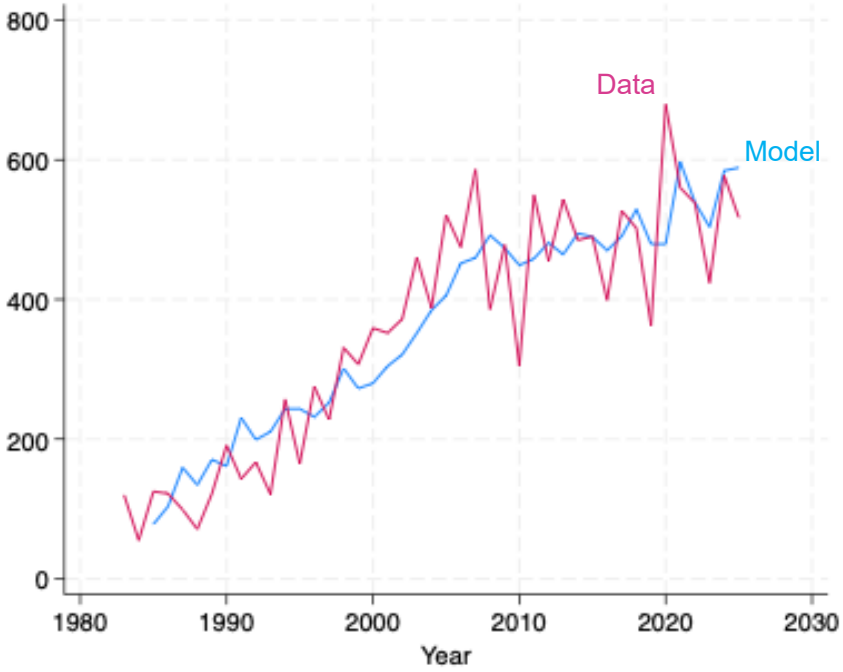
Thanks to Raquel for supplying the data!

Models

- **Model 1: how much of total conference attendance (A = in-person + online) is explained by membership (M)?**
- **$A_t = 37.3 + 0.395M_{t-1}$; $\bar{R}^2 = 0.80$**

Red = statistically significant

- Lagging membership by 1 year reduces endogeneity bias due to people who might join in year *t* so as to receive the lower registration fee for members.
- **Implication: Total conference attendance strongly associated with Society membership.**



Source	SS	df	MS	Number of obs	=	41
				F(1, 39)	=	160.00
Model	879887.12	1	879887.12	Prob > F	=	0.0000
Residual	214475.904	39	5499.38215	R-squared	=	0.8040
				Adj R-squared	=	0.7990
Total	1094363.02	40	27359.0756	Root MSE	=	74.158

tatt	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
mem						
L1.	.3946862	.0312029	12.65	0.000	.3315723	.4578001
_cons	37.2919	28.46666	1.31	0.198	-20.28735	94.87115

Thanks to Raquel for supplying the data!

Models

- **Model 2: how does "remote" conference location affect attendance?**
- **A_t = 54.8 + 0.398M_{t-1} – 47.5*Remote$_t$; R^2 = 0.82 —**

  Red – statistically significant at p ≤ 0.05
  Note: data through 2019 (pre-COVID; see note)
- **Remote is statistically significant and reduces expected attendance by ≈ 48 people (15% of average attendance through 2019)**
- **Remote locations are those outside of Europe or USA, or in Europe / USA but not in major international flight hubs:**

```
. reg tatt l.mem remote if year<2020

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     76.82
       Model |  682416.117         2  341208.058   Prob > F        =    0.0000
    Residual |  142128.169        32  4441.50528   R-squared       =    0.8276
-------------+----------------------------------   Adj R-squared   =    0.8169
       Total |  824544.286        34  24251.3025   Root MSE        =    66.645

------------------------------------------------------------------------------
        tatt | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         mem |
          L1. |   .3982936   .0331437    12.02   0.000     .3307822    .4658051
              |
      remote |  -47.50613   22.83472    -2.08   0.046    -94.01894   -.9933256
       _cons |   54.8466    29.76645     1.84   0.075    -5.785671    115.4789
------------------------------------------------------------------------------
```

1984 Oslo, Norway
1985 Keystone, USA
1987 Shanghai, China
1991 Bangkok, Thailand
1994 Stirling, Scotland
1995 Tokyo, Japan
1997 Istanbul, Turkey
1999 Wellington, New Zealand
2000 Bergen, Norway
2002 Palermo, Italy
2004 Oxford, UK
2008 Athens, Greece
2009 Albuquerque, USA
2010 Seoul, Korea
2012 St. Gallen, Switzerland
2019 Albuquerque, USA
*2020 Bergen, Norway**
2024 Bergen, Norway

**(COVID: no in-person option)*

Note: model for total attendance fails when including the post-COVID data due to introduction of hybrid conference (on-line option). See Models 3-5.

What about COVID and hybrid conferences?

- Model 3: Accounting for COVID and on-line option. Modeling in-person attendance, A^I
- Add fixed effects for COVID (=1 in 2020 and 2021) and On Line Option (OLO; = 1 in 2023, 24, 25)
- $A^I_t = 47.1 + 0.398M_{t-1} - 28.4*\text{Remote}_t - 537.6*\text{COVID}_t - 243.1*\text{OLO}_t$; $R^2 = 0.82$
- Membership, COVID, and OLO are highly statistically significant and materially large.
- Large negative coefficient on OLO indicates strong substitution effect:
  On-line option reduces in-person attendance by an average of 243 people.
- Remote location no longer significant. Likely that the cost and inconvenience of a remote location reduces in-person attendance and increases on-line participation, so is captured in the OLO fixed effect.
- Implications:
  - Significant drop in in-person attendance post-COVID due to online option.
  - Financial implications depend on how much variable costs of conference fall relative to the lower online registration fee.
  - Online participants unable to connect with in-person participants during breaks, meals, evenings. Negative impact on quality for both?
  - Do online participants attend as many sessions as in-person participants?

```
. reg att l.mem remote olo COVID

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(4, 36)        =     47.66
       Model |  887627.357         4  221906.839   Prob > F        =    0.0000
    Residual |  167620.448        36  4656.12356   R-squared       =    0.8412
-------------+----------------------------------   Adj R-squared   =    0.8235
       Total |   1055247.8        40  26381.1951   Root MSE        =    68.236

------------------------------------------------------------------------------
         att | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         mem |
         L1. |   .3976682   .0336388    11.82   0.000     .3294455    .4658908
             |
      remote |  -28.4434    21.85121    -1.30   0.201    -72.75971    15.8729
         olo |  -243.0854   40.60018    -5.99   0.000    -325.4263   -160.7444
       COVID |  -537.5678   52.61221   -10.22   0.000    -644.2703   -430.8653
       _cons |   47.14856   30.07273     1.57   0.126    -13.84177    108.1389
------------------------------------------------------------------------------
```

What is the impact of conferences outside Europe or USA?

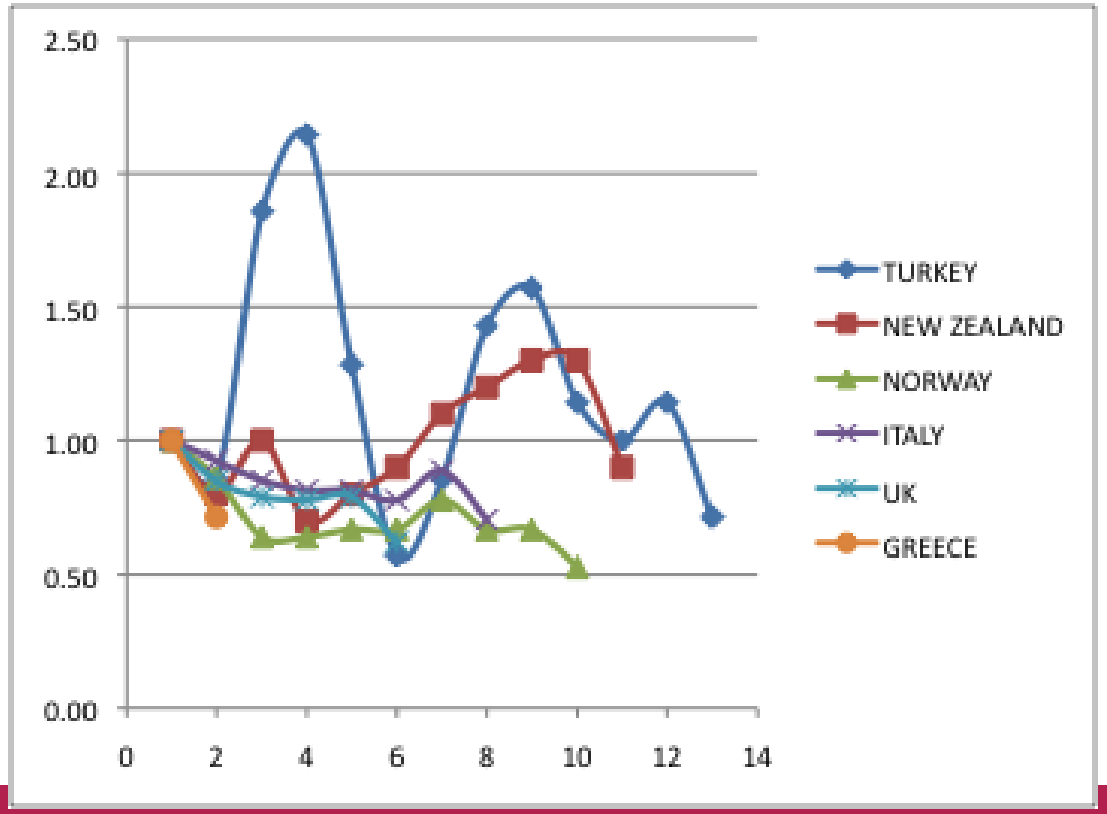
- Model 4 = Model 3 (in-person attendance, A^I) with addition of fixed effects for locations Europe and Other (non-Europe, non-US).
- $A^I_t = 82.2 + 0.380M_{t-1} + 0.25*\text{Remote}_t - 546.2*\text{COVID}_t - 243.8*\text{OLO}_t - 40.0*\text{Europe}_t - 84.5*\text{Other}_t$ $R^2 = 0.85$
- Membership, COVID, OLO, Europe, and Other are highly statistically significant and materially large.
- Compared to a conference in the US, a European location lowers attendance by an average of ≈ 40.
- A conference outside the US or Europe lowers attendance by an average of ≈ 85.
- Running Model 4 on total attendance (A = in-person + online) shows no significant impact of COVID or OLO because online participants substitute for in-person participant. Model still shows a large, statistically significant drop in total attendance for Other locations (–81.1).
- Model with interaction of Remote*Europe shows Remote statistically significant
- Implications:
  - Conferences outside the US or Europe, or remote US/European locations, significantly cut in-person attendance.
  - The original analysis (pre-2020) showed that conferences outside Europe/USA did not yield enduring increases in local Society membership.

```
. reg att l.mem remote olo COVID europe other

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(6, 34)        =     39.07
       Model |  921582.383         6  153597.064   Prob > F        =    0.0000
    Residual |  133665.422        34  3931.33593   R-squared       =    0.8733
-------------+----------------------------------   Adj R-squared   =    0.8510
       Total |   1055247.8        40  26381.1951   Root MSE        =      62.7

------------------------------------------------------------------------------
         att | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         mem |
          L1.|   .3800372   .0321513    11.82   0.000      .314698    .4453764
             |
      remote |   .2465394   22.42748     0.01   0.991    -45.33157    45.82465
         olo |  -243.8065    37.3082    -6.53   0.000    -319.6259   -167.9871
       COVID |  -546.1667   48.43267   -11.28   0.000    -644.5937   -447.7396
      europe |  -36.94716   22.01064    -1.68   0.102    -81.67816    7.783836
       other |  -84.53274   29.66903    -2.85   0.007    -144.8275   -24.23802
       _cons |   82.2498    30.10497     2.73   0.010     21.06914    143.4305
------------------------------------------------------------------------------
```

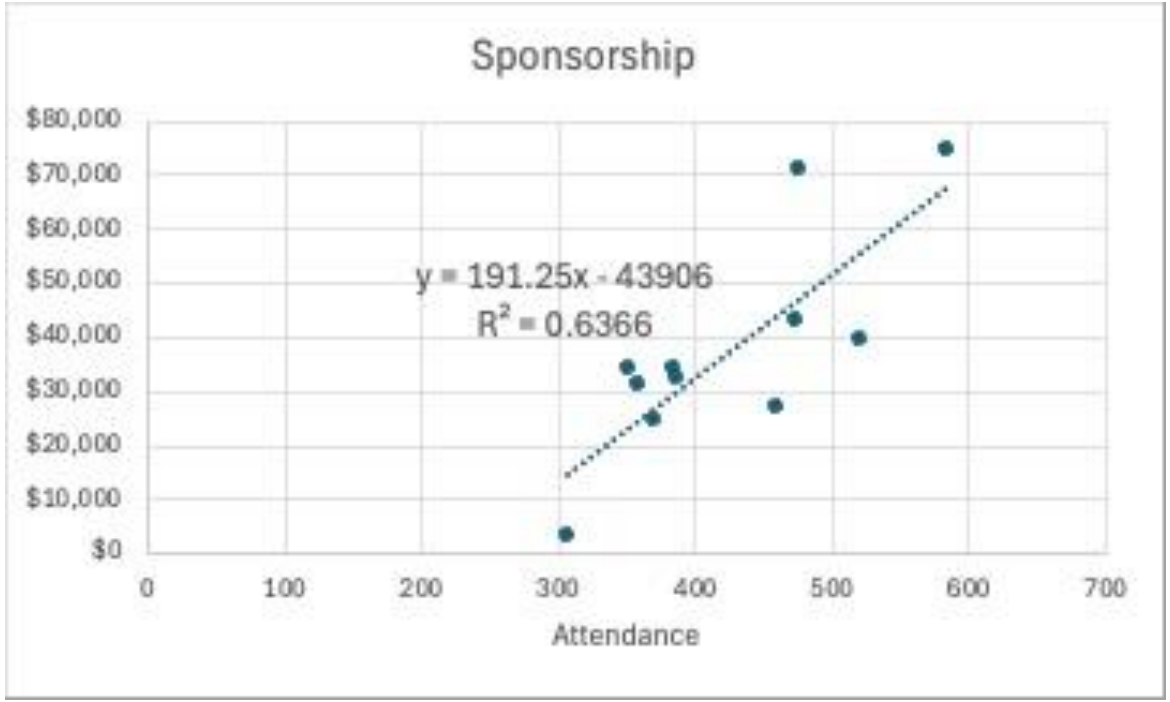
Conclusions

- Conference attendance strongly associated with Society membership.
- Since 2007
  - Membership growth has slowed
  - Total conference attendance (in-person and online) is flat
  - In-person attendance has fallen.
- The on-line option created a large substitution effect that cuts in-person attendance
- Conferences held in major air-travel hubs in Europe and the US have significantly higher in-person attendance.
- Remote locations (outside Europe/US or Europe/US cities outside major hubs)
  - Cut attendance and revenue
  - Do not result in enduring increases in new members from those locations.

Membership in hosting locations (remote only). 2009 analysis



Sponsorship vs attendance (2009 analysis)



Submit Your Budget Proposal

New Budget Proposal Submission Process

Eliot Rich

UNiversity of Albany

- **Proposed By:** Finance Committee
- **Project Types:** Large, long term (3 years) strategic projects with priority given to those that directly serve SDS strategic goals
- **Who Can Submit:** Policy Council & Executive Director
- **Submission Deadline:** October 31 for next year's budget with rolling submissions allowed
- **Budget:** TBD but probably on order of $50K over three years
- **Decision Makers:** Strategy Committee (Allyson, Asmeret, Scott, Eliot, Lees, Jeroen, Willem)
- Submission Form: Draft Form available now

Strategic Planning (President)

Asmeret Naugle
Sandia Laboratories

- 2025 (so far) strategic planning summary
- Strategy committee’s proposed 5-year goals
- Discussion

Strategy Committee's Proposed 5-Year Goals

1. Build & support local SD groups
2. Increase attendance at SD events
3. Increase number of society members
4. Broaden awareness of SD

Strategy Committee's Proposed 5-Year Goals

1. Build & support local SD groups

Path Forward: Research how to do this effectively and develop a plan.

Possible metrics:

- Support 2 new local events each year by 2031
- Increase fraction of members that have a conference or meeting in their country that year (not including the annual conference) by 10% by 2031
- Increase membership in underrepresented areas (outside of the US and Europe) by 10% by 2031

Strategy Committee's Proposed 5-Year Goals

2. Increase attendance at SD events

Path Forward: Research how to do this effectively and develop a plan.

Possible metrics:

- Increase conference attendance by 10% by 2030
- Increase attendance at local SD events by 30% by 2030
- Increase attendance at the SD-MIT seminar series to 100 by 2030

Strategy Committee's Proposed 5-Year Goals

3. Increase number of society members

Path Forward: Consider value proposition of membership. Collect and analyze data to consider dynamics related to demographics, diversity, etc.

Possible metrics:

- Increase recruitment by 10% by 2030
- Increase retention by 10% by 2030

Strategy Committee's Proposed 5-Year Goals

4. Broaden awareness of System Dynamics

Path Forward: Research how to do this effectively and develop a plan.

Possible metrics:

- Increase number of SD articles in the academic press by 25% by 2030
- Increase number of citations of SD articles in the academic press by 25% by 2030
- Increase number of articles published in the System Dynamics Review by 25% by 2030
- Increase number of citations of SD in the popular press (possible tracked through google alerts) by 25% by 2030
- Increase K-12/college-level teachers using SD by 10% by 2030

ADJOURNMENT