Evaluation Data Report
Optimal Control Working Group
Meeting One: April 26-28, 2011

Pamela Bishop
Program Evaluation Coordinator
National Institute for Mathematical and Biological Synthesis
June, 2011

This work was conducted at the National Institute for Mathematical and Biological Synthesis, sponsored by the National Science Foundation, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture through NSF Award #EF-0832858, with additional support from The University of Tennessee, Knoxville.
### Table of Contents

- Evaluation Design ........................................................................................................ 1
- Evaluation Questions ................................................................................................... 1
- Evaluation Procedures ................................................................................................. 1
- Evaluation Data ........................................................................................................... 2
  - Respondent Satisfaction ............................................................................................ 2
    - Suggestions for NIMBioS to improve the resources and/or accommodations available to working group participants: ................................................................. 3
- Views of Group Progress ................................................................................................. 3
  - Comments about finding a common language: ......................................................... 3
- Working Group Format and Content ............................................................................. 3
  - Suggestions for improving group format: ................................................................. 4
  - Comments about understanding research in other disciplines: ............................... 4
- Most Useful Aspects of the Meeting ............................................................................. 5
- Impact on Future Research Plans .................................................................................. 5
  - Comments about influence on future research: ....................................................... 5
  - Comments about plans for collaborative research: ................................................. 6
  - Comments about understanding what is expected of working group members: .......... 6
- Suggestions for Future Meetings ................................................................................... 7
- Additional Comments about working group ............................................................... 7
- Appendix ...................................................................................................................... 8
List of tables

Table 1. Satisfaction with content and format of the working group
Table 2. Satisfaction with working group accommodations
Table 3. Learning about issues related to the working group’s research problem

List of figures

Figure 1. Do you feel the working group made adequate progress, for its first meeting, toward finding a common language across disciplines in the research area?
Figure 2. How do you feel about the format of the working group?
Figure 3. Do you feel the participating in the working group helped you understand the research happening in other disciplines in the group’s topic area?
Figure 4. Do you feel that the exchange of ideas that took place during the working group will influence your future research?
Figure 5. Did you develop unanticipated plans for collaborative research with other working group participants?
Figure 6. Do you feel the expectations for the next working group are clear (in the sense that you are leaving this meeting with a good idea of what your contribution will be at the next meeting)?
Evaluation Design

Evaluation Questions

The evaluation of the working group was both formative and summative in nature, in that the data collected from participants was intended to both gain feedback from participants about the quality of the current working group and also to inform future meetings. The evaluation framework was guided by Kirkpatrick’s Four Levels of Evaluation model for training and learning programs (Kirkpatrick, 1994¹). Several questions constituted the foundation for the evaluation:

1. Were participants satisfied with the working group overall?
2. Did the meeting meet participant expectations?
3. Do participants feel the working group made adequate progress toward its stated goals?
4. Do participants feel they gained knowledge about the main issues related to the research problem?
5. Do participants feel they gained a better understanding of the research across disciplines related to the working group’s research problem?
6. What impact do participants feel the working group will have on their future research?
7. Were participants satisfied with the accommodations offered by NIMBioS?
8. What changes in accommodations, group format, and/or content would participants like to see at future meetings?

Evaluation Procedures

An electronic survey aligned to the evaluation questions was designed by the NIMBioS Evaluation Coordinator with input from the NIMBioS Director and Deputy Director. The final instrument was hosted online via the University of Tennessee’s online survey host mrInterview. Links to the survey were sent to seven working group participants on April 29, 2011 (working group organizers and participants associated with NIMBioS were excluded from the evaluation). Reminder emails were sent to non-responding participants on May 6 and 11, 2011. By May 18, 2011, five participants had given their feedback, for a response rate of 71%.

## Evaluation Data

### Respondent Satisfaction

#### Table 1. Satisfaction with content and format of the working group

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel the working group was very productive.</td>
<td>80%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The working group met my expectations.</td>
<td>80%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The presenters were very knowledgeable about their topics.</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The presentations were useful.</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The group discussions were useful.</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>I would recommend participating in NIMBioS working groups to my colleagues</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Table 2. Satisfaction with working group accommodations

Please indicate your level of satisfaction with the working group accommodations:

<table>
<thead>
<tr>
<th>Comfort of the facility in which the working group took place</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Strongly dissatisfied</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources of the facility in which the working group took place</td>
<td>80%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Travel arranged by NIMBioS</td>
<td>60%</td>
<td>40%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Housing arranged by NIMBioS</td>
<td>60%</td>
<td>40%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Suggestions for NIMBioS to improve the resources and/or accommodations available to working group participants:

   Longer hours for working groups.

Views of Group Progress

Figure 1. Do you feel the working group made adequate progress, for its first meeting, toward finding a common language across disciplines in the research area?

Comments about finding a common language:

   No comments

Working Group Format and Content

Figure 2. How do you feel about the format of the working group?
Suggestions for improving group format:

No comments

Figure 3. Do you feel the participating in the working group helped you understand the research happening in other disciplines in the group’s topic area?

Yes 100%

Comments about understanding research in other disciplines:

This was the first meeting and I feel it was really productive. I am looking forward to see how the tasks we defined get completed.

Table 3. Learning about issues related to the working group’s research problem

<table>
<thead>
<tr>
<th>As a result of participating in this working group, I have a better understanding of:</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The research data available on the working group’s topic</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The modeling techniques available on the working group’s topic</td>
<td>80%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New methods and modeling techniques that need to be developed</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The types of data needed to better inform existing models</td>
<td>80%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
**Most Useful Aspects of the Meeting**

Being able to interact and develop new and simple ideas to evaluate the efficacy of using the aggregate model control for ABM Model.

Exchange of ideas.

Presentations and discussions.

The common understanding of this problem area that the group is developing is immensely valuable.

This is a relatively young and eager group of individuals that want to get things done.

**Impact on Future Research Plans**

Figure 4. Do you feel that the exchange of ideas that took place during the working group will influence your future research?

![Yes 100%](image)

**Comments about influence on future research:**

"Perhaps" might be a better answer in my case. My current commitment to national interagency fire management research and development is very time consuming.
Figure 5. Did you develop unanticipated plans for collaborative research with other working group participants?

Comments about plans for collaborative research:

Again, "perhaps" might be a better descriptor. I agreed to explore how stochastic mathematical programming methods might be used for the two cases the group is initially investigating. It is not yet clear that these methods will warrant collaborative research.

I found some possible collaborators.

Optimal control of the treatments for HIV, HBV viruses using the aggregate model and using the control for ABM model.

Figure 6. Do you feel the expectations for the next working group are clear (in the sense that you are leaving this meeting with a good idea of what your contribution will be at the next meeting)?

Comments about understanding what is expected of working group members:

I think the tasks and expectations are clear.
Suggestions for Future Meetings

*Give us some free time in the middle of the day to decompress. Maybe a lunch on our own type plan so we can get out of NIMBioS for an hour or two.*

Additional Comments about working group

*Thank you NIMBioS.*
Appendix

Optimal Control Working Group Evaluation Survey
Optimal Control Working Group Survey

Thank you for taking a moment to complete this survey. Your responses will be used to improve the working groups hosted by the National Institute for Mathematical and Biological Synthesis. Information supplied on the survey will be confidential, and results will be reported only in the aggregate.

Please check the appropriate box to indicate your level of agreement with the following statements about this working group: (Very satisfied, Satisfied, Neutral, Dissatisfied, Very dissatisfied)

I feel the working group was very productive.
The working group met my expectations.
The presenters were very knowledgeable about their topics.
The presentations were useful.
The group discussions were useful
I would recommend participating in NIMBioS working groups to my colleagues.

Please check the appropriate box to indicate your level of agreement with the following statements.

As a result of participating in this working group, I have a better understanding of:
(Strongly agree, Agree, Neutral, Disagree, Strongly disagree)

the research data available on the working group’s topic
the modeling techniques available on the working group’s topic
the types of data needed to better inform existing models
new methods and modeling techniques that need to be developed

Do you feel the working group made adequate progress, for its first meeting, toward finding a common language across disciplines in the research area?

Yes
No
Comments:

Do you feel the participating in the working group helped you understand the research happening in other disciplines in the group's topic area?

Yes
No
Comments:

Do you feel the expectations for the next working group are clear (in the sense that you are leaving this meeting with a good idea of what your contribution will be at the next meeting)?

Yes
No
Comments:
Do you feel that the exchange of ideas that took place during the working group will initiate or influence your future research?
   Yes
   No
   Please explain:

Did you develop unanticipated plans for collaborative research with other working group participants?
   Yes
   No
   Please explain:

What do you feel was the most useful aspect of the working group?

What would you have changed about the working group?

How do you feel about the format of the working group?
   This was a very effective format for achieving our goals
   This was not a very effective format for achieving our goals ->
   The working group format would have been more effective if:

Please indicate your level of satisfaction with the working group accommodations:
(Very satisfied, Satisfied, Neutral, Dissatisfied, Very dissatisfied)
   Travel arranged by NIMBioS
   Housing arranged by NIMBioS
   Comfort of the facility in which the working group took place
   Resources of the facility in which the working group took place

Please indicate any changes NIMBioS can make to improve the resources and/or accommodations available to working group participants:

Please provide any additional comments about your overall experience with the working group: