

Toward Sequencing and Mapping of RNA Modifications: *Ideation Challenge*

June 12th, 2023 – June 13th, 2023 | 9:00am-5:00pm (EDT)

500 5th St NW, Washington, DC 20001 | Room 208



MONDAY, JUNE 12, 2023 (all times in EDT)

8:00–9:00

Breakfast and Arrival of Participants

9:00–9:30

Welcome and Introductions

Steven Moss, NASEM; Study Director

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

Taekjip Ha, Johns Hopkins University; Study Committee Co-Chair

9:30–10:30

Group Introductions

Jessica De Mouy, NASEM

In this activity, you will partner with someone you have not met before, spend some time getting to know each other, and then you will both introduce each other to the larger group.

Goal: Learn about the other ideation challenge participants.

10:30–10:40

Break

10:40–12:15

Short Presentations on Emerging Technologies and Techniques

Taekjip Ha, Johns Hopkins University; Study Committee Co-Chair

Each participant will give a 2-minute presentation on an emerging or innovative technology, methodology, or technique that you find most exciting or promising for use in the field of RNA modifications.

Goals: 1) To learn about new tools and techniques that might help your group think through innovative idea development. 2) To gain new knowledge and insights in areas where you may not have previous expertise or experience.

12:15–1:00

Working Lunch

Participants will continue discussions from the short presentations.

1:00–2:30

Brainstorming – Challenges in Mapping and Sequencing RNA Chemical Modifications

Steven Moss, NASEM; Study Director

This is the opportunity for your group to brainstorm challenges and identify the specific challenge you will be working on for the remainder of the Challenge. Here is an abbreviated timing breakdown for this part of the agenda:

- Quick Introductions (5 min)
- Individual brainstorming (10 min)
- Writing down all the challenges you came up with (20 min)
- Narrowing down and refining the challenge(s) you want to address (45 min)

Goals: 1) Brainstorm all the challenges you and your group can think of in the field of mapping and sequencing RNA Chemical Modifications. 2) Narrow your list down to 1 or 2 challenges that you will address over the course of the rest of the Challenge.

2:30–3:15

Report out on Selected Challenge(s)

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

Each group will have one person report-out on the challenge(s) selected. The person reporting out should address 1) what other challenges your group was considering, and 2) in the process of narrowing down, what made your group decide on this challenge? (5 min per group).

Goal: Learn what challenge other groups have chosen and why.

3:15–3:30

Break

3:30–4:45

Visualizing your Challenge

Draw a visual diagram (paper/online) of your challenge including the different components that make up your challenge, stakeholders, existing methodologies or technology that have the potential to address the problem, future methodologies or technology that do not yet exist, near- and long-term goals associated with solving the challenge, and impact of solving the challenge

Goals: 1) Identifying the broader ecosystem in which the challenge exists. 2) Understanding goals and needs that must be addressed in writing your two-page outline.

4:45–5:00

Close-out of Day 1

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

END OF DAY 1

TUESDAY, JUNE 13, 2023 (all times in EDT)

8:00–9:00 **Breakfast and Arrival of Participants**

9:00–9:10 **Day 2 Overview and Instructions**

Steven Moss, NASEM; Study Director

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

9:10–10:00 **Revisit Yesterday's Visual Diagram**

Discuss any changes or additions you wish to make to the visual diagram created on Day 1. Spend time thinking through the main avenues you are going to use to address your challenge.

10:00–10:15 **Break**

10:15–12:00 **Writing an Initial Plan of Action**

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

This is the first chance to start putting together the 2-page action plan that will be submitted at the end of the ideation challenge. Below are some guiding questions to consider as you complete the action plan:

- What is the problem you are trying to solve and why is it an important problem to solve?
- What are the solutions you propose for solving this problem?
- What are the near-term goals that need to be accomplished (1-2 years of the project)?
- What are the long-term goals that need to be accomplished (5-10 years into the project)?
- What is the end goal of the project and how will you know when the challenge is complete? What are the metrics you would use to assess completeness?
- What methodologies and technologies that currently exist that might help to accomplish any of your goals?
- What new and emerging methodologies and technologies might help in solve these goals in the near future?
- What technologies and methodologies must be developed in order to accomplish the any goals of the project?
- What disciplines and expertise areas must be engaged in order to accomplish the goals of your project?
- Who are the stakeholders and groups that will need to be involved in accomplishing this project, and what will their specific roles be?
- What workforce, educational, or societal considerations need to be taken into account?
- What will be the impact of your ideas if they are accomplished? How will it impact that RNA community as well as other scientific and engineering disciplines?

Goal: Create an initial outline of how your group plans to address the challenge established from the first day of the meeting.

12:00–1:00

Lunch

Participants will continue discussions of challenge ideas.

1:00–2:30

Peer Review Breakout Activity

Steven Moss, NASEM; Study Director

New groups will be assigned with 1 or 2 people from each separate ideation challenge group. These new groups will provide an opportunity to give and receive feedback on your challenge ideas. You will spend 20 minutes on each project. The representative from each group will have 5 minutes to explain their challenge, and the ideas their group came up with to address this challenge. The other folks in the group will then have 15 minutes to ask questions and give suggestions on how your group might consider improving the project.

Goal: Receive peer review comments on your plans for the ideation challenge.

2:30–2:45

Break

2:45–4:30

Finish the Write-Up Using Review Comments

Discuss the feedback everyone received from the peer review process and incorporate any helpful information into the two-page action plan.

***If you have time, please arrange a time to record your 5-minute presentation with Jessica De Mouy.*

Goal: Finish group work and incorporate feedback from the peer review activity.

4:30–5:00

Closeout Challenge and Next Steps

Steven Moss, NASEM; Study Director

Brenda Bass, University of Utah School of Medicine; Study Committee Co-Chair

MEETING ADJOURNS