

Gather.town Quick Guide
BII Awardee Meeting Poster Session, October 18-19, 2022
Hosted by the EMERGE Institute



The meeting will take place in Gather.town, a platform enabling self-directed interactivity that simulates walking around at a conference, listening to presentations and meeting colleagues. You will create and control your own avatar to interact with others nearby.

Getting Started

You are strongly encouraged to check out the Gather.town event space prior to October 18.

The BII Awardee Meeting link is open, so you can learn how to navigate the space before the meeting begins.

<https://app.gather.town/app/wBFJ7POLNy6COFgb/BII%20Awardee%20Meeting%20Small>

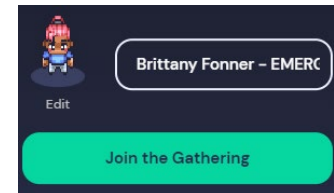
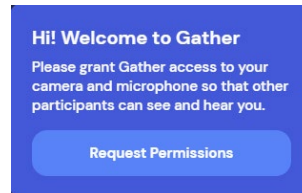
Password: BII2022! (bii in caps)

Requirements:

- Desktop/laptop with microphone and camera
- **Google Chrome Browser *HIGHLY RECOMMENDED*** (Firefox and Chrome are the only supported browsers).
- Headset is **strongly recommended** and helps prevent feedback (if you experience feedback, try lowering your volume).

Entering the Site

1. Click on the [link](#) to enter the Gather.town space
2. Enter Password: BII2022!
3. Enter your name.
4. Click the “Request Permissions” button when prompted. Allow Gather to access your camera and microphone.
5. Type in your name and institute affiliation.
6. Click “Edit” if you wish to edit your avatar. Otherwise, click “Join the Gathering”
7. You will begin with a tutorial to familiarize yourself with the controls. You may skip this by clicking the button on the right
8. Click “Join Gather”
9. Optional: create account to remember settings for subsequent visits by clicking “Sign In”



General Contacts for Help with the site

Steve DiFazio, sdifazio@nsf.gov

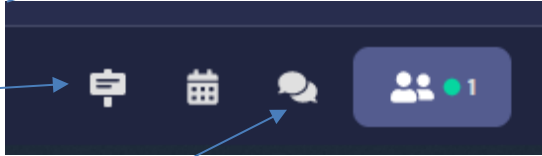
Jennifer Visosky, jvisosky@nsf.gov

Brittany Fonner, brittany.a.fonner@gmail.com

Layout of Menus

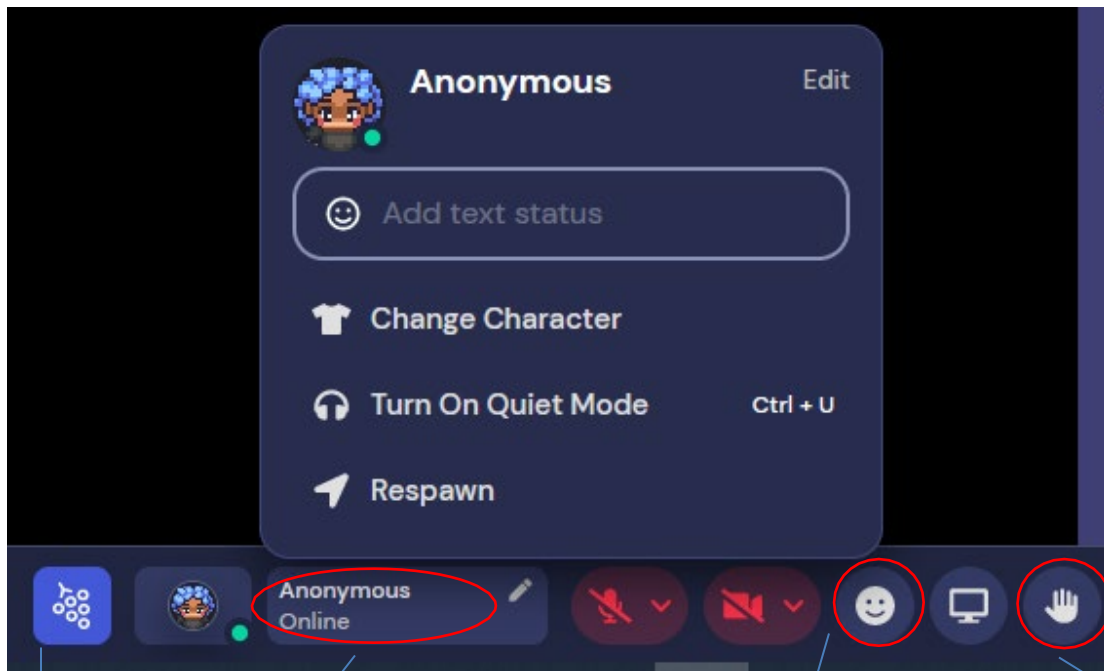


Info Board: See announcements posted by the organizers



Chat: You may send a chat to all participants (Everyone), those around you (Nearby) or a friend (Individual)

Participants: You can see the list of all participants. Click on a name to get the option to follow them or send a message.

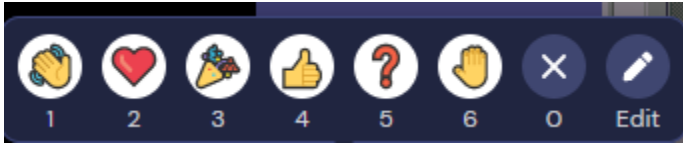


Click on your name at the bottom of the screen to open your Options Menu. Here you can:

1. Edit your avatar and avatar name
2. Turn on Quiet Mode (shows you are offline; no video/audio capabilities are active)
3. Respawn ***IMPORTANT***. If you happen to get stuck (a common problem in Firefox), **this button will send you back to the Lobby where you entered.**

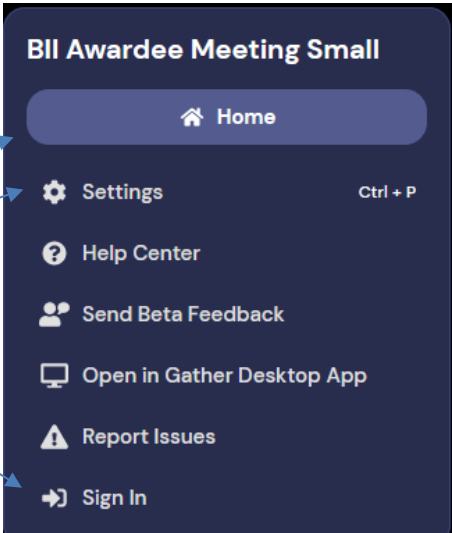
Smile Icon:
Provides multiple emoji icons which will display above your avatar for a short period of time.

Raise Hand: If you need assistance, raise your hand, and an organizer will come find you.



The grape bunch icon gets you to a menu where you can

1. Return to the Gather.town Home Page (exiting the meeting)
2. Change your video and audio settings, and
3. Sign into and out of the site. Please note that you do not need to be signed in to use this space.



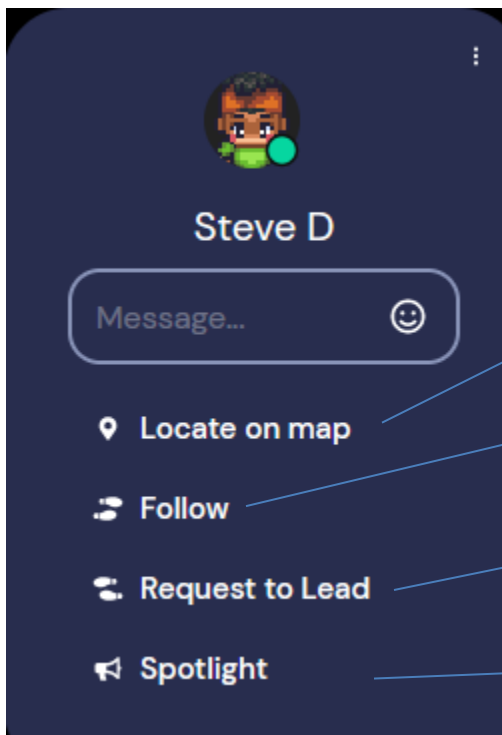
Navigating

1. Moving: To move around the conference space use the arrows on your keyboard. To enter any room just walk through the opening. If someone is blocking the doorway use Ghost mode (holding down “G” on your keyboard) to move past them.
2. Private Spaces: These spaces are indicated by shaded squares. Your audio/visual will only be shared with those who are in the same space. There are multiple private spaces throughout the conference space.
3. Ghost Mode: If you wish to pass through an area without communicating with others, hold down “G” and they won’t see you.

Interacting

Interacting in Gather.town is very similar to how you would interact in the real world.

1. If you walk by another avatar your audio/visual will automatically connect.
2. Alternatively, you may start a chat with someone by clicking on their name in the chat panel on the left. You also have the option to send a message to everyone or just people nearby.
3. If you click a participant’s name on the sidebar, multiple options will appear:



Locate on map: This function is not working properly.

Follow: Find another participant and follow them around the space

Request to Lead: Bring another participant to your location.

Spotlight: Gives the person access to address all participants and share their screen

Conference Areas

Main Hall

All participants will begin in the Main Hall and may enter other rooms by walking through labeled doorways.

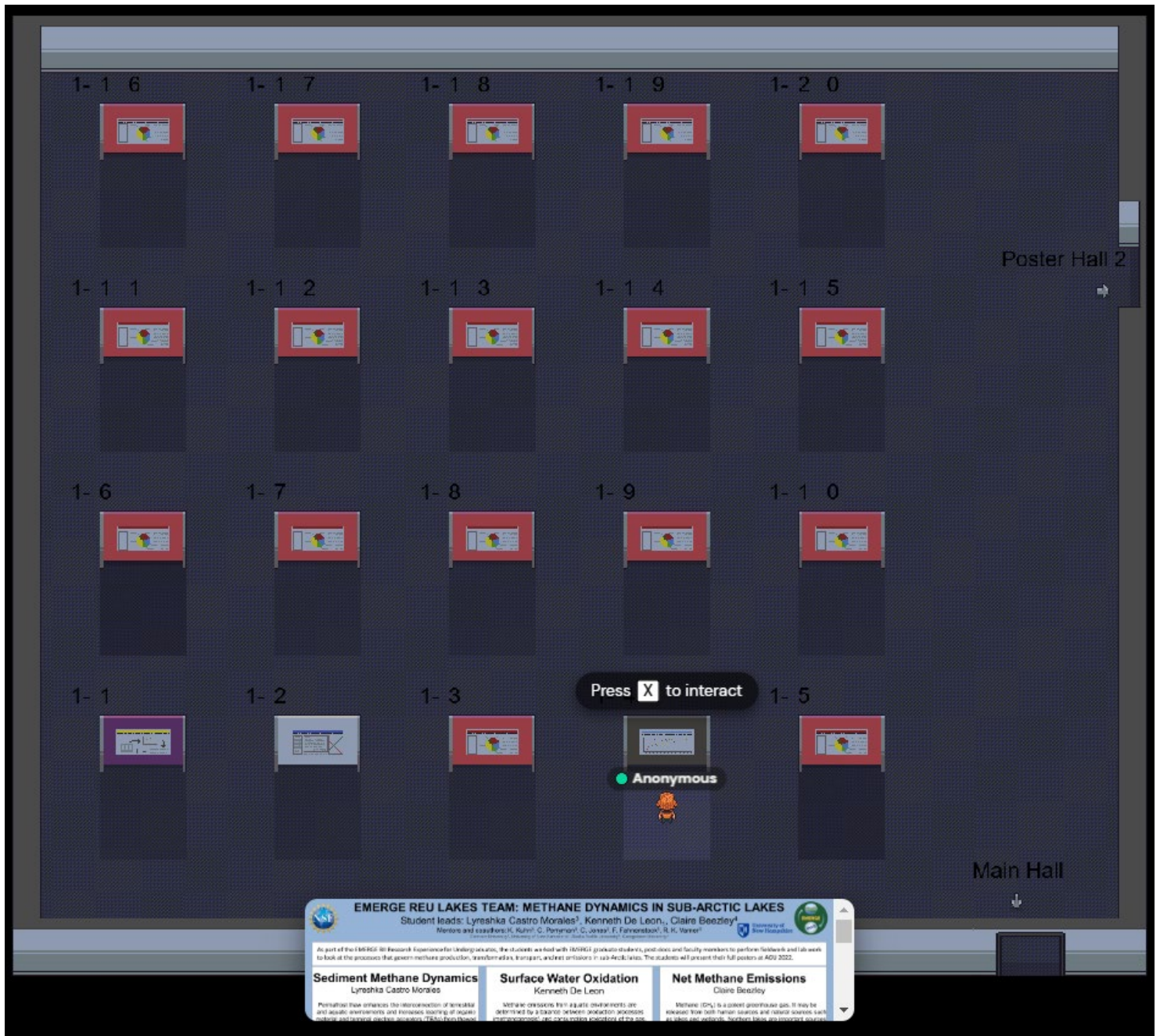


Poster Halls:

These rooms have a series of numbered posters (see graphic below). They are numbered according to the format [poster hall]-[poster #] (e.g., poster 1-1 is poster #1 in poster hall 1). When you walk up to the front of a poster, a thumbnail preview will pop up. You will be able to see the title without interacting with the presenter.

To view the entire poster in full screen, click "X" on your keyboard.

FOR POSTER PRESENTERS ONLY: Make sure you are standing in the private (shaded) space of your poster. This is where visitors will be able to interact with you and ask questions.



To zoom in on the poster, press the transparent magnifying glass on the right side of the image (circled below), or just use your computer's native zoom function. To exit the poster, select "X" again, on your keyboard or on the screen (circled below).

If you wish to interact with the presenter, enter the dark shaded area in front of the poster (private space). Presenters will stand in the shaded area to present their poster and answer questions.

NSF-Spencer

An Integrated Framework for Kinetic Modeling of Gene Expression and Regulation

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Abstract

Upstream open reading frames (uORFs) are present in over half of all human mRNAs and can potently regulate the translation of downstream open reading frames. Upstream ORFs can regulate translation of downstream ORFs by several mechanisms including siphoning off of scanning ribosomes, regulating re-initiation, and through interactions between scanning and elongating ribosomes. However, the consequences of these different mechanisms for regulation of protein expression remain incompletely understood. Here, we performed systematic measurements on the uORF-containing 5' UTR of the cytomegaloviral UL4 mRNA to test different models of uORF-mediated regulation in human cells. We find that a terminal diploline-dependent elongation stall in the UL4 uORF prevents decreases in main ORF translation when ribosome loading onto the mRNA is reduced. Computational kinetic modeling based on our measurements suggests that scanning ribosomes dissociate rather than queue when they collide with stalled elongating ribosomes at the terminal diploline motif in the UL4 uORF. We identify several human uORFs that repress main ORF translation via a similar terminal diploline motif. We propose that elongation stalls in uORFs provide a general mechanism for buffering against reductions in main ORF translation during stress and developmental transitions.

Models of uORF regulation of translation

A. Constitutive repression
B. BOS-HI dissociation
C. Queuing-mediated enhanced repression
D. Collision-mediated 40S dissociation
E. Reinitiated re-initiation

Computational framework for kinetic modeling of eukaryotic quality control pathways

Modeling molecule components

- ribosome scanning (R_{sc})
- ribosome elongation (R_{el})
- ribosome dissociation (R_{dis})
- ribosome re-initiation (R_{ri})
- ribosome queuing (R_{q})
- ribosome collision (R_{c})
- ribosome-mediated enhanced repression (R_{MER})
- ribosome-mediated 40S dissociation (R_{M40S})
- ribosome-mediated re-initiation (R_{Mri})

Computational predictions of unique buffering dependencies in models of uORF regulation of translation

A. Constitutive repression
B. BOS-HI dissociation
C. Queuing-mediated enhanced repression
D. Collision-mediated 40S dissociation
E. Reinitiated re-initiation

UL4 uORF2 elongation stall-dependent translational buffering

Next step: modeling other template-driven processes and visualizing modeling predictions

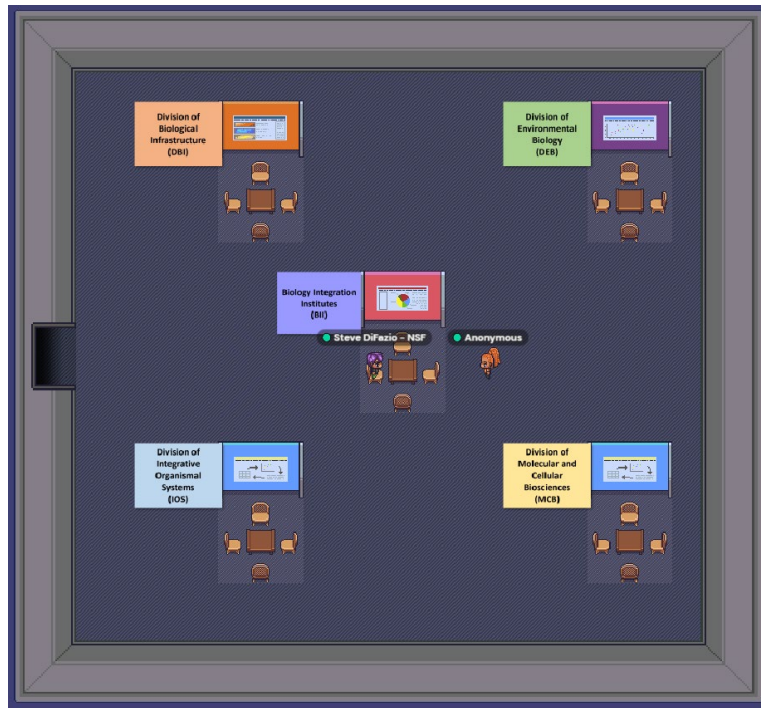
- Model DNA transcription
 - nucleosome obstruction
 - differentiate between proposed models
- Model RNA splicing
 - recursive splicing
 - alternative splicing

As computationally predicted model, uORF elongation stall location doesn't systematically affect

NSF-Spencer Online

NSF Booths:

NSF staff will be available for consultation during the afternoon mixers. There will be a booth for each of the divisions within the Directorate of Biological Sciences. Each space has a poster with information about the respective divisions.



Breakout Rooms:

There are six spaces available for impromptu meetings. Each room has a table and chairs and an interactive white board. The white board will become available when you approach it.

