



Barnard Biology Research Symposium 2020

<https://biology.barnard.edu/biology-events/symposium-program-2020>

Wednesday, May 6th | 9:30 am to 3:15 pm

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Department of Biological Sciences

biology.barnard.edu

212.854.2437

Barnard Biology Research Symposium

May 6, 2020 | Zoom | 9:30 am to 3:15 pm

We are delighted to welcome you to the annual Barnard Biology Research Symposium! This symposium is dedicated to showcasing and celebrating the exemplary work of our Guided Research & Seminar and Senior Thesis Research & Seminar students. Under the guidance of their dedicated mentors, both at Barnard and throughout New York City, our students have spent the 2019-2020 academic year working independently on projects ranging from those in cell biology to animal behavior to clinical trials.

Today, we feature the meticulous and painstaking work of our presenters and congratulate them and their mentors on their steadfast commitment to their research! We hope today's presentations and posters will inspire the next generation of Barnard Biology majors to follow boldly in their footsteps in the pursuit of knowledge across biological disciplines.

We encourage you to join us today for both sessions, the first of which will feature presentations by our Senior Thesis Research & Seminar students from 9:30 am to 1:00 pm, followed by the Guided Research & Seminar poster session from 2:00 to 3:15 pm.

Warmly,

The Barnard Biology Department

Note: A brief How-to-use Zoom guide is provided on pages 10-15 of this program. On the day of the event, this program will be available as a webpage ([link](#)).

Schedule of Events

9:30 am to 9:45 am — Opening Remarks by Professors Jessica Goldstein, JJ Miranda, and Alison Pischedda

SESSION ONE

9:45 am to 11:00 am — Senior Thesis Research & Seminar Student Presentations

11:00 am to 11:15 am — Break

11:15 am to 12:45 pm — Senior Thesis Research & Seminar Student Presentations

12:45 pm to 1:00 pm — Concluding Remarks

BREAK

1:00 pm to 2:00 pm — Lunch Break

SESSION TWO

2:00 pm to 2:20 pm — Opening Remarks & Student Poster Oral Abstracts

2:20 pm to 3:00 pm — Guided Research & Seminar Student Poster Session

3:00 pm to 3:15 pm — Closing Remarks

A detailed schedule—including presenters, project titles, and Zoom links—is provided on the following pages. Research mentors and their respective institutional affiliations are listed below each title. On the day of the event, this program will be available as a webpage ([link](#)).



Senior Thesis Research & Seminar (2020)

(From left to right.) Top: Tasneem Ebrahim, Joy Barrett, Tova Finkelstein, and Kyra Schindler.
Middle: Sophia Liu, Maite Ibáñez de Garayo, Devon Bernsley, and Anastasija Čupić,
Bottom: Nora McNamara-Bordewick, Iasha Khan, and Nina Tang.

Biology majors enroll in Senior Thesis Research & Seminar to satisfy their senior capstone requirement for the major. This year-long course requires students to work on independent research projects under the guidance of their mentors. It culminates in both a scientific paper and a 15-minute research talk presented in today's first session.

Session One: Senior Thesis Research & Seminar Presentations

Zoom Meeting ID: 955 2852 4368 ([Zoom Link](#))

As you join the meeting, please ensure that your microphone is on Mute (see pg. 13). Questions at the end of a presentation will be moderated by Professors Goldstein, Miranda, and Pischedda in the chat (see pg. 14); please post your questions by sending them to 'Everyone', which is the default on Zoom. To clap at the end of a presentation, use the clap emoji under the reactions button (see pg. 14).

9:45 am **Tasneem Ebrahim**

How do human natural killer cells kill their targets?

Emily Mace (Department of Pediatrics, Vagelos College of Physicians and Surgeons, Columbia University)

10:00 am **Anastasija Čupić**

LGP2 works as a positive regulator of MDA5-mediated antiviral sensing

Adolfo García-Sastre and Lisa Miorin (Department of Microbiology, Icahn School of Medicine at Mount Sinai)

10:15 am **Joy Barrett**

Presence of selective constraint on silent substitutions in chloroplast genes of flowering plants

Brian Morton (Department of Biological Sciences, Barnard College)

10:30 am **Tova Finkelstein**

Hoxa5 and its role in patterning skeletal muscle and brown adipose tissue

Jennifer Mansfield (Department of Biological Sciences, Barnard College)

10:45 am **Nora McNamara-Bordewick**

Characterizing the effects of pharmacologic proteasome inhibition on honey bees

Jonathan W. Snow (Department of Biological Sciences, Barnard College)

11:00 am **Break**

11:15 am **Nina Tang**

Role of CTX-M-15 in cefepime resistance mechanism of piperacillin-tazobactam susceptible *Enterobacteriaceae* clinical isolates

Anne-Catrin Uhlemann (Division of Infectious Diseases—Department of Medicine, Vagelos College of Physicians and Surgeons, Columbia University)

11:30 am **Sophia Liu**

Of Mice and Mead: Parsing out the influence of taste and olfaction on alcohol's flavor in mice

John Glendinning (Department of Biological Sciences, Barnard College)

11:45 am **Iasha Khan**

Understanding the role of Cathepsin K expression downstream of the CD200-CD200R1 axis in cutaneous squamous cell carcinoma metastasis

David M. Owens (Department of Pathology and Cell Biology, Columbia University)

12:00 pm **Devon Bernsley**

Thermal regulation and movement patterns of eastern box turtles

Matthew Palmer (Department of Ecology, Evolution, and Environmental Biology, Columbia University), Suzanne Macey (Center for Biodiversity and Conservation, American Museum of Natural History), and Maria Strangas (Science Research Mentoring Program, American Museum of Natural History)

12:15 pm **Maite Ibáñez de Garayo**

Targeting BET proteins in herpesvirus-associated cancers

JJ Miranda (Department of Biological Sciences, Barnard College)

12:30 pm **Kyra Schindler**

Assessing the role of Hoxa5 in muscle vs. brown adipose tissue specification in cultured myoblast cells

Jennifer Mansfield (Department of Biological Sciences, Barnard College)



Guided Research & Seminar (2020)

(From left to right.) Top: Amira F. Farid, Talia Boyers, and Abigail I. Gutierrez.

Middle: Ariana Chuback, Ana Maria Rodriguez Cuadrado, and Vanessa Marie Chirino.

Bottom: Abigail Schreier, Frances Marie Kamara, and Stefani Shoreibah.

Biology majors enroll in Guided Research & Seminar to satisfy two of three required upper-level biology labs for the major. This year-long course requires students to work on independent research projects under the guidance of their mentors. It culminates in both a scientific paper and the poster presented in today's second session.

Session Two: Guided Research & Seminar Poster Session

Student Poster Abstracts (2:00 pm to 2:20 pm)

Zoom Meeting ID: 955 2852 4368 ([Zoom Link](#))

Student Poster Sessions (2:20 pm to 3:00 pm)

Poster 1 Stefani Shoreibah

Assessing sensitivity of breast cancer cells to chemotherapy

Tal Danino and Dhru Deb (Department of Biomedical Engineering, Columbia University)

Zoom Meeting ID: 968 5744 1761 ([Zoom Link](#))

Poster 2 Abigail Schreier

The Emma Watch: Exploring the efficacy of a haptic wearable watch to improve individuals with action tremor

Lori Quinn (Department of Behavioral Sciences, Teachers College, Columbia University)

Zoom Meeting ID: 893 0107 0750 ([Zoom Link](#))

Poster 3 Ana Maria Rodriguez Cuadrado

Is there genetic variation in male mate choice?

Alison Pischedda (Department of Biological Sciences, Barnard College)

Zoom Meeting ID: 898 5535 4296 ([Zoom Link](#))

Poster 4 **Francesc Marie Kamara**

Identifying genes implicated in touch receptor neuron ensheathment in *C. elegans*

Martin Chalfie and Matthew Walker (Department of Biological Sciences, Columbia University)

Zoom Meeting ID: 728 3063 9880 ([Zoom Link](#))

Poster 5 **Abigail I. Gutierrez**

The effects of sexual conflict on male fitness in *Drosophila melanogaster*

Alison Pischedda (Department of Biological Sciences, Barnard College)

Zoom Meeting ID: 868 2078 2668 ([Zoom Link](#))

Poster 6 **Amira F. Farid**

The effects of pediatric bariatric surgery on thyroid function

Ilene Fennoy and Alyson Weiner (Division of Pediatric Endocrinology—Department of Pediatrics, Columbia University Irving Medical Center)

Zoom Meeting ID: 812 8371 3802 ([Zoom Link](#))

Poster 7 **Ariana Chuback**

Genetic defects in the myocardium predispose children to acute myocarditis

Bruce D. Gelb (Mindich Child Health and Development Institute, Icahn School of Medicine at Mount Sinai), Amy R. Kontorovich (Division of Cardiology, Icahn School of Medicine at Mount Sinai), and Nihir Patel (Department of Genetics, Icahn School of Medicine at Mount Sinai)

Zoom Meeting ID: 975 0026 3749 ([Zoom Link](#))

Poster 8 Vanessa Marie Chirino

Modulating the enzymatic activity of a thermostable alcohol dehydrogenase (AdhD) via fusion of DNA nanostructures

Scott Banta and Nisha Modi (Department of Chemical Engineering, The Fu Foundation School of Engineering and Applied Science, Columbia University)

Zoom Meeting ID: 923 5756 4978 ([Zoom Link](#))

Poster 9 Talia Boyers

Coding Patient Preferences: What do migraine patients want in an mHealth app?

Mia T. Minen and Sarah Corner (Department of Neurology, New York University Langone Health)

Zoom Meeting ID: 924 3261 7657 ([Zoom Link](#))

Closing Remarks (3:00 pm to 3:15 pm)

Zoom Meeting ID: 955 2852 4368 ([Zoom Link](#))

Zoom: Tips and How-to-Use

Downloading Zoom (free) for Desktop and Cell Phone or Tablet

Before the date of this symposium, download Zoom for Mac or PC by visiting <https://zoom.us/download>.

If you will be joining by cell phone or tablet, visit the Google Play Store/Apple App Store and search “Zoom” to download and install. You can also download the app at the following links:

Google Play Store:

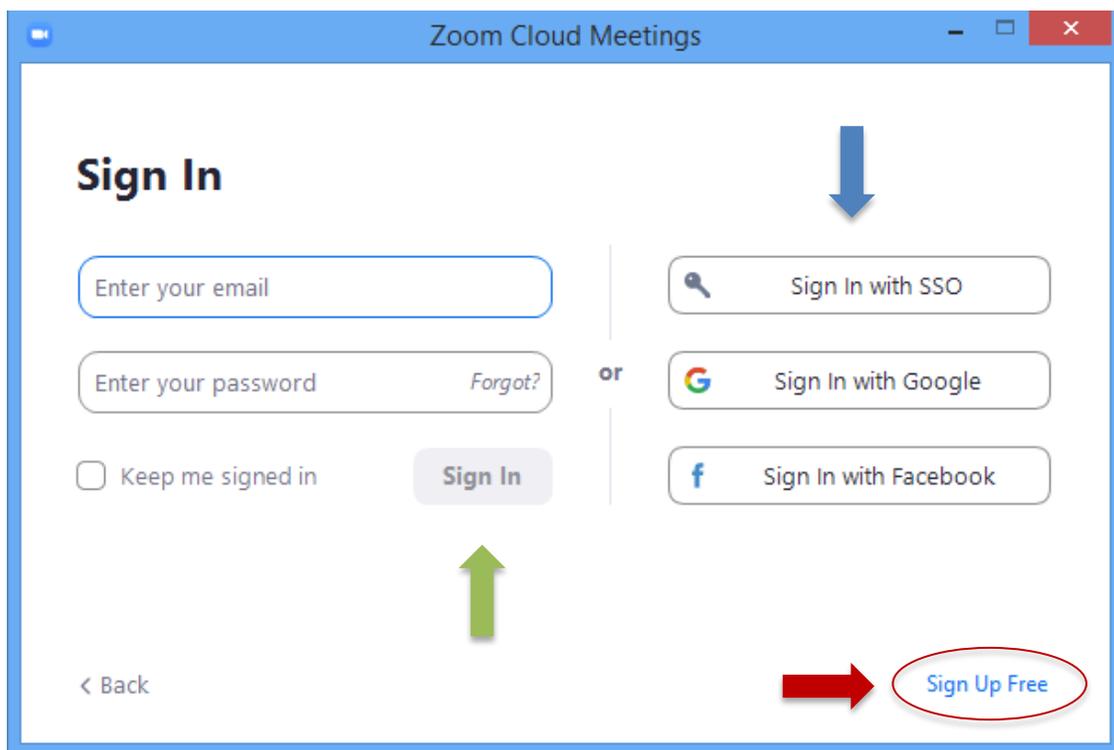
<https://play.google.com/store/apps/details?id=us.zoom.videomeetings>

Apple App Store:

<https://apps.apple.com/us/app/id546505307>

Account Set Up & Sign In

Launch the Zoom app. If this is your first Zoom meeting, you’ll need to sign up for a Zoom account (red arrow). Otherwise, enter your account credentials (green arrow).

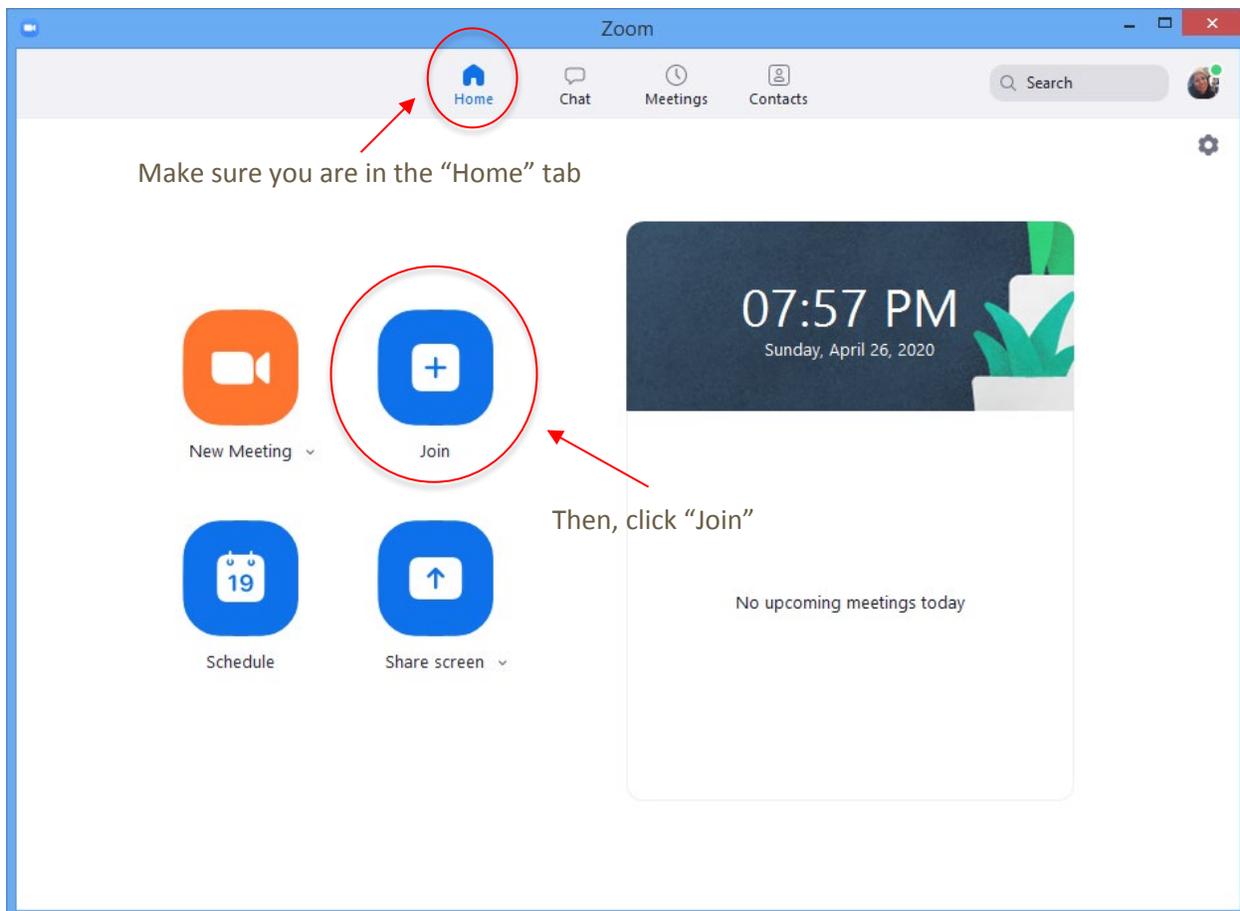


If you have a Gmail or Facebook account, you can sign up using those credentials (blue arrow).

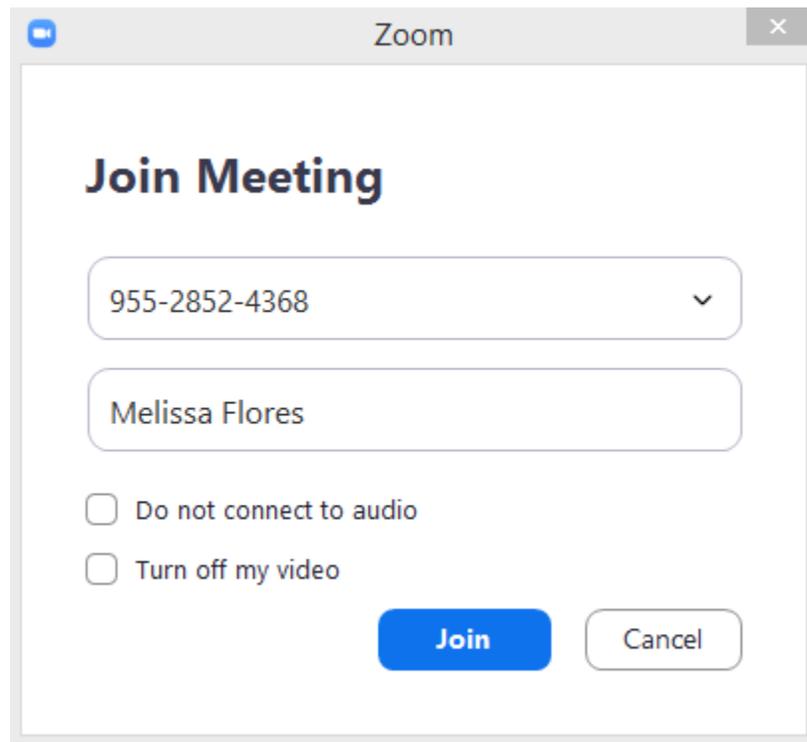
If you are signing up for an account, follow the instructions at <https://zoom.us/signup>. Once you have created your account, sign in.

Joining a Meeting

All of this symposium's talks and posters will be hosted on Zoom. For the thesis talks and poster abstracts, you'll join the "main" Zoom Meeting either by clicking the link provided in the program above, or by "joining" the meeting using the meeting ID provided. Once you have signed in, under the "Home" tab, click "Join".



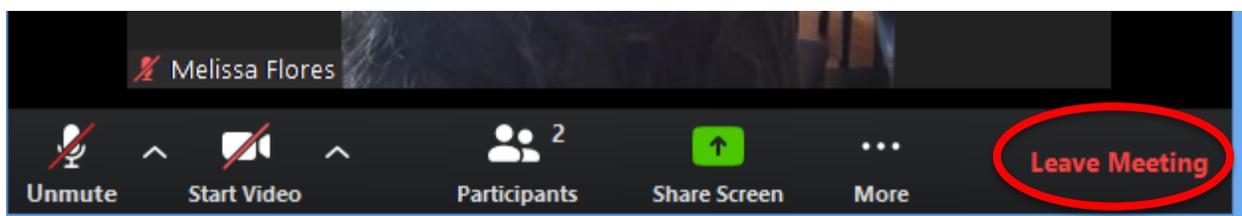
Type in the meeting ID provided in this program and your name as you want it to appear. If you wish to disconnect your camera, select the box that says “turn off my video”. Then press “Join”.



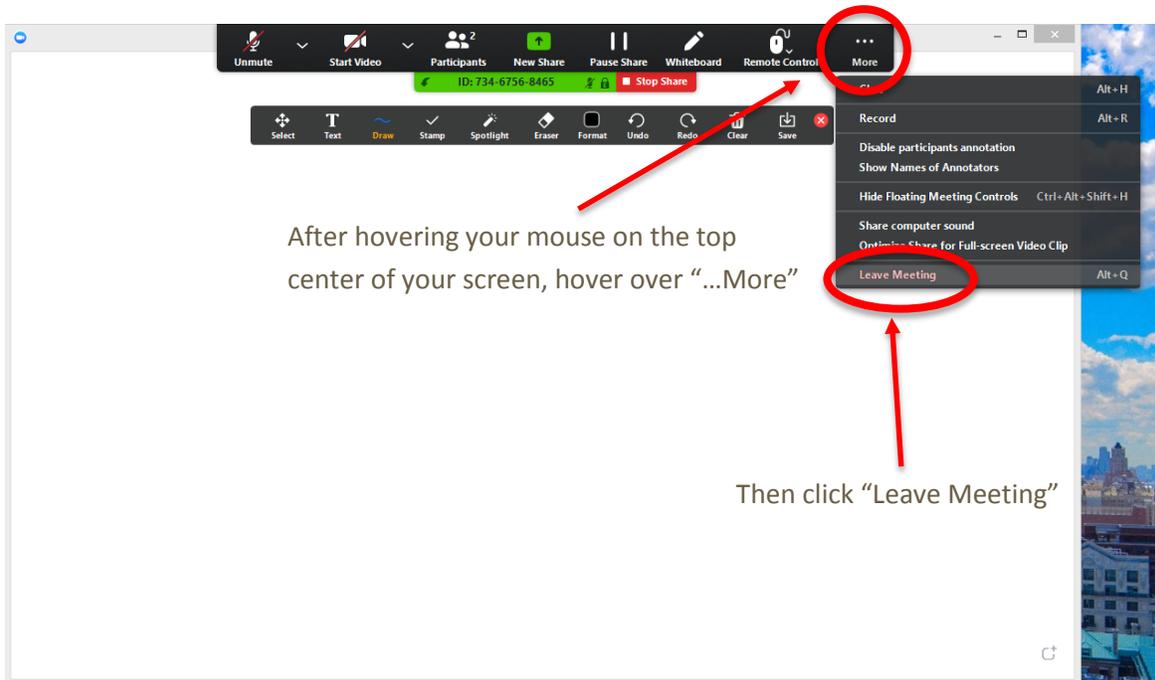
For the poster session, individual students will be hosting Zoom meetings where they will explain their research poster and answer questions (links provided in the program above). On the day of, you can also visit: <https://biology.barnard.edu/biology-events/symposium-program-2020>.

Leaving a Meeting

To leave a session where no one is sharing their screen, simply press “Leave Meeting” in the lower right hand corner of your screen.

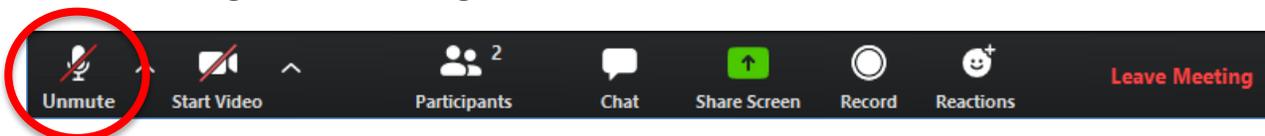


If a host is sharing their screen, hover your mouse over the top center of your screen (where it says the Meeting ID in green). The meeting controls will drop down when you do this. Hover your mouse over the "...More" button. At the bottom of the drop down menu that appears, you can select "Leave Meeting". Alternatively, you can hold down the Alt + Q buttons on your keyboard.



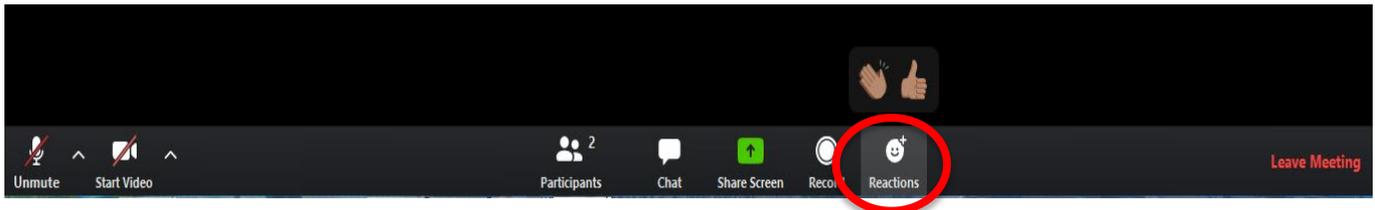
Best Practices & Tips

In general, it is a good idea to make sure your microphone is on mute when joining a meeting. A host will likely have this setting on by default. This way, any background noise on your end will not disrupt the meeting. To turn your microphone off, select the microphone icon in the bottom left of your screen. You should now see it as crossed out. To unmute yourself, simply click that icon again. You'll no longer see the mic as crossed out.

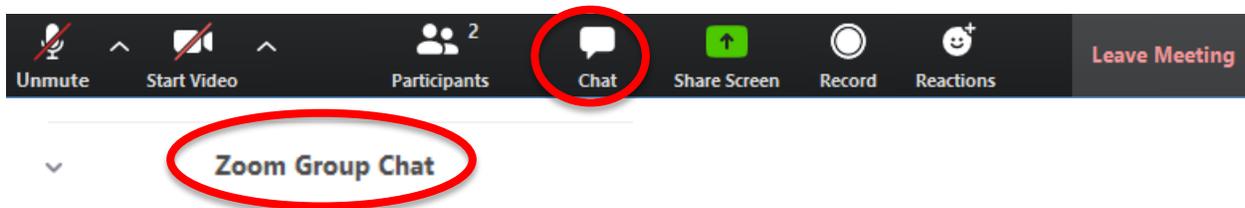


You can turn your camera on and off by selecting the video icon to the right of the microphone icon.

After a presentation, you can “clap” for a participant by selecting the “Reactions” button on your control bar and selecting the clapping hands icon. This is to the left of the Leave Meeting button.



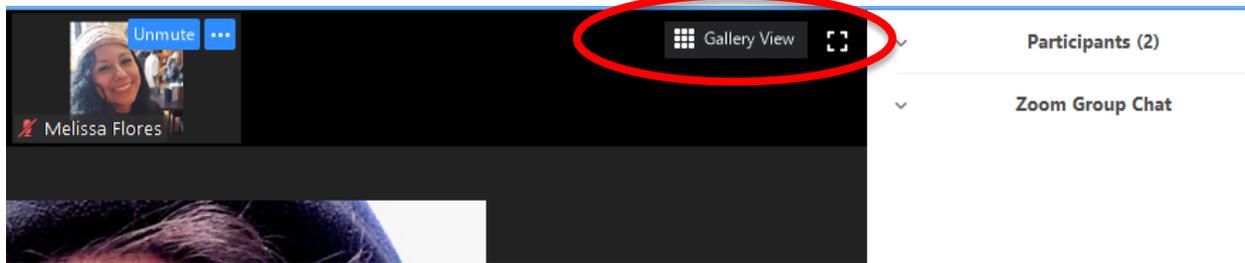
You can send questions by message using the chat function. First, select “Chat”. This will open up the chat box to the right of your screen. At the end of a presentation, you may send questions to ‘Everyone’. Professors Jessica Goldstein, JJ Miranda, and Alison Pischedda will moderate these depending on the amount of time left at the end of a presentation.



This sidebar will appear on the right hand side of your screen after clicking the “Chat” icon. Select the person you’d like to message from the dropdown where it says “to:”. For questions, please send them to ‘Everyone’, which is the default.



Lastly, by default, Zoom is set up to “Speaker” view where the screen changes between whoever it picks up as actively speaking during a meeting (outlined in green). If you’d instead like to view all participants who are in a meeting, you can select “Gallery” view on the top right hand corner of your meeting. If you have “Participants” and/or the “Chat” boxes selected, you will see the “Gallery” view button to the left of them in the top right hand corner of the speaker box. Once you select it, it will become the “Speaker” view button. You can toggle between the two per your preference, even as one user’s video has been spotlighted, such as during a presentation.



Questions about Zoom? You can contact the department administrator, Melissa Flores by email at mflores@barnard.edu. She will be checking email on the day of the event.