

# The American Association for the Advancement of Science (AAAS)

## Journals



## Mission:

"advance science, engineering, and innovation throughout the world for the benefit of all people."

## Diversity, Equity & Inclusion

- STEM Opportunity Alliance (SOA)
- Entry Point
- SEA Change
- L'Oréal USA Fellowships For Women in Science

## For More Information

- AAAS Website - <https://www.aaas.org/>
- Science Careers - <https://www.sciencejobs.org/>



# Emerging Researchers National Conference in STEM (ERN)



March 14 – 16, 2024 in Washington, DC

- Funder: National Science Foundation (NSF) HBCU-UP
- Goals/Objectives:
  - Prepare a diverse cadre of students for global STEM careers
  - Hone science communication skills
  - Engage in PD and build community/belonging in STEM
- Conference Activities:
  - Undergraduate & graduate STEM research presentations
  - Professional development workshops
  - Educational and career fair
  - Students with Disabilities Working Group
  - Professional STEM Societies Working Group

# AAAS ERN Project Team



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# How to Deliver an Excellent Oral Research Presentation

Mary Ann Leung, Ph.D.  
President & Founder  
Sustainable Horizons Institute

March 5, 2024

ERN Emerging Researchers National  
Conference in STEM

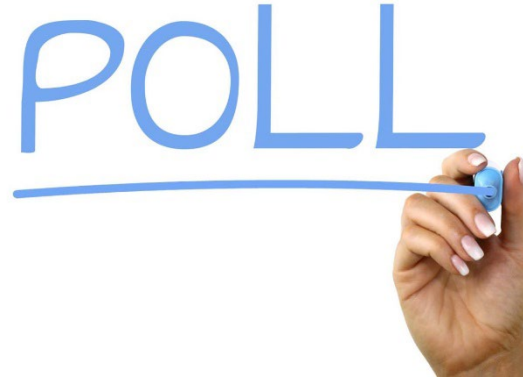




# Administrative Details

- Webinar is 60 minutes including time for Q&A
- Feel free to ask questions throughout
  - Raise your hand or
  - Use chat window to submit questions

Who are we (in this webinar)?



- Poll:

<https://pollev.com/maryannleung407> or

Text **MARYANNLEUNG407** to **22333** once to join

Notes:

- Polls are intended for everyone to anonymously interact
- Your data will remain anonymous
- Data from this session will NOT be used in the future
- No scientific conclusions should be drawn from these polls



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**Why give an oral?**

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**Judging criteria**

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**Preparing your slides**

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**Preparing yourself**

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**Presenting**

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**Discussion**

A slide titled "OVERVIEW" with a background image of Earth from space. The word "OVERVIEW" is written in white, spaced-out capital letters across the top of the image. The image shows the curvature of the Earth with blue oceans, white clouds, and brown landmasses against a black sky.

O V E R V I E W

# Overview

**Why give  
an oral?**

**Judging  
criteria**

**Preparing  
your slides**

**Preparing  
yourself**

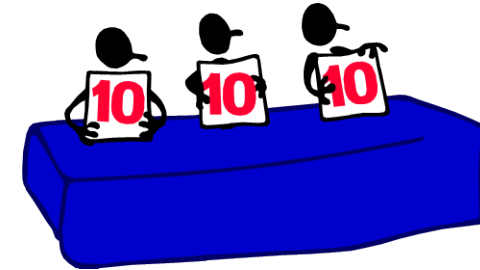
**Presenting**

**Discussion**



- Your orals at ERN will be judged on:

- Quality and relevance of the abstract
- Content
  - Clearly explain objectives and why the research is important
  - Hypothesis/statement of the problem
  - Methods, results, conclusions and future research
  - References and acknowledgements
- Graphics
  - Illustrations should be simple and bold
  - Photos clearly show pertinent details
  - Graphics should be self-explanatory and enhance verbal presentation and discussion
- Presentation
  - Demonstrate a good understanding of study and related areas
  - Respond effectively and clearly to questions
- Adherence to time limit



# Organizing your ideas for your audience

- Who is your audience?
- What do they know or not know?
- Organize your presentation
  - Overview/Motivation (Why should I care?)
  - Background
  - Methods
  - Results
  - Discussion
  - Future Work
  - Acknowledgements



# Your presentation should tell a story

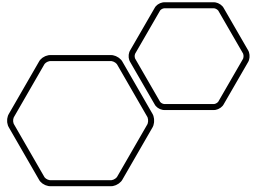
- Every story has a
  - Beginning
  - Actors
  - Middle
  - Some twists and turns
  - Ending
  - Questions
  - What you discovered



# Telling a scientific story

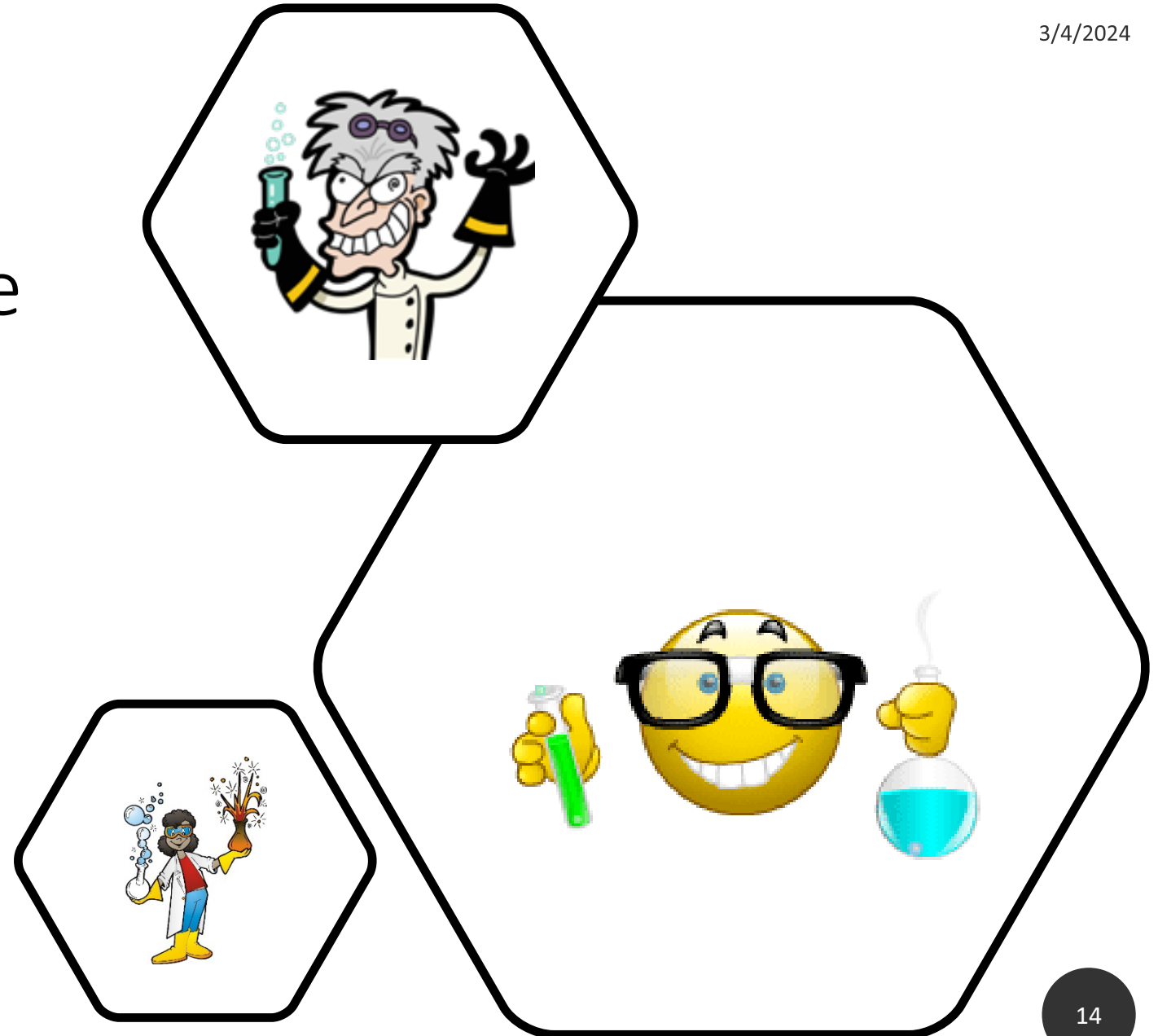
- In science, you learn more and more about less and less
- Balancing technical detail with reaching your audience is an art
- Your audience may be scientifically adept, but not in your particular area/project
- Communicating to someone not knowledgeable in your area can take you a long way!





## Tell your story in the right context

- Know your audience
- Tell a good – organized story
- Balance scientific detail with the big picture in an understandable way



# Poll Question

<http://PollEV.com/maryannleung407>

Text MARYANNLEUNG407 to 2233  
once to join

# Professional presentation software and templates

- Use professional software and templates
- Be creative, but professional
- Don't use excessive "flashy" tricks that distract from your message
- Use colors to highlight text sparingly
- Include a title for each slide
- Keep text and equations to a minimum
- Include graphics, charts, images
- Run a spell checker!



# Chunking and organizing your thoughts

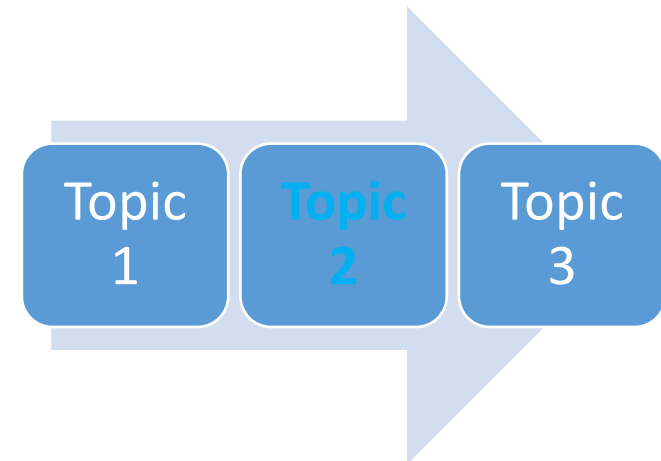
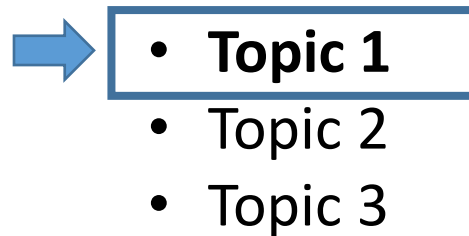
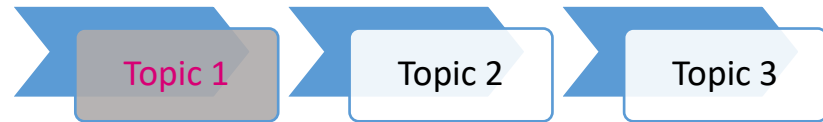


- Do not put too much information, text, or imagery on one slide
- Use the 5-7 rule (no more than 5-7 bullets per slide)
- Break up your thoughts into small bite size pieces
- Develop a logical flow between slides
- Use transitions, as appropriate
- Use sign posts, as appropriate



# Example sign posts

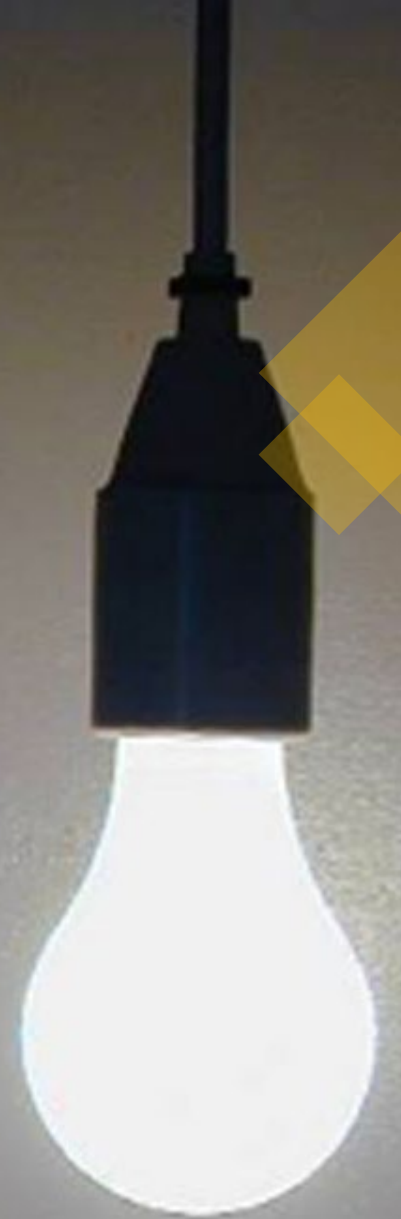
- Sign posts tell people where you are in the overall process



# What to include on your slides

- **Use large letters (no fonts smaller than 16 pts!!)**
  - View your presentation from the back of the room
  - Do not use different fonts or type styles; (one or two)
- **Keep the graphics simple**
  - Don't show graphs you won't need
  - If you only discuss 1 of 4 graphs, cut others out
  - If you do not have artistic talent ask for help
- **Use cartoons or illustrations**
- **Combine graphics and text**
  - Appeal to different learning styles

mples.



# Anatomy of a good talk

- Overview/Motivation (Why I care?)
- Background
- Methods
- Results
- Discussion
- Future Work
- Acknowledgements



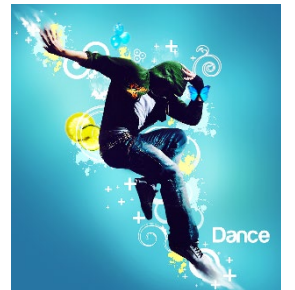
# ERN Guidelines

## guidelines

ERN Presentation guidelines are located online at <https://emerging-researchers.org/presentation-guidelines/>

# Be prepared for your presentation

- Practice, practice, practice!
  - Peers
  - People who don't know your research
  - People similar to your expected audience
  - By yourself so you can get your language set
- Know your stuff
- Prepare for questions
- Prepare to dance on your feet



# Look the part

- Wear professional attire

- No sandals
- No tennis shoes
- No halter tops
- No t-shirts
- No tight or revealing clothing
- No clothing with printing that is suggestive, offensive, obscene, or pro substances
- No athletic clothing including sweat pants and sweat shirts
- No sleepwear, including pajama bottoms



- Posture

- Stand up straight
- Don't "fidget"
- Don't play with your hair



# Speak the part

- Speak
  - Loud
  - Clearly
  - Confidently
- Do not
  - Mumble
  - Chew gum
- Avoid making distracting noises or motions

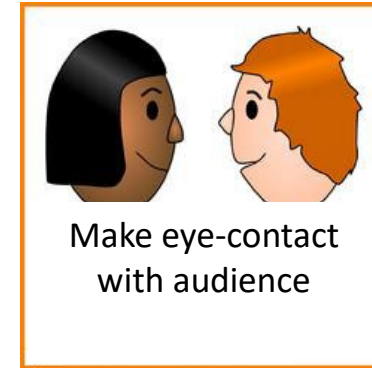


## Confidence



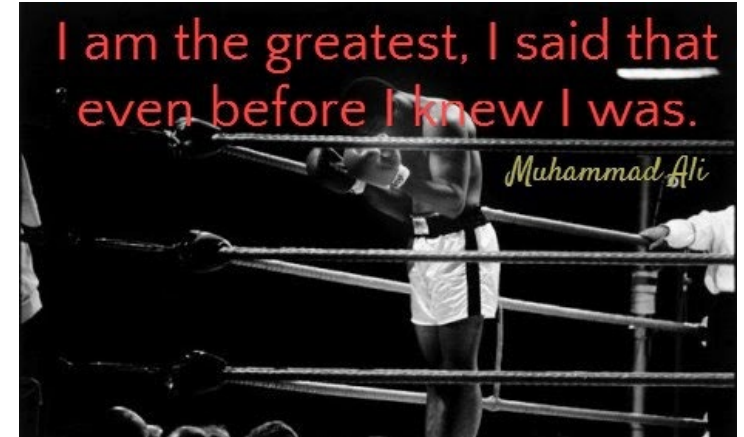
# Connect with your audience

- Make eye contact
- Smile
- Ask questions; engage audience
- Answer questions
- Be courteous
- Talk to your audience, not the screen
- Convey your excitement!



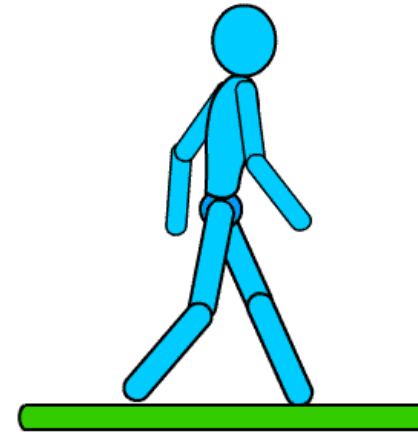
# Summary Checklist

1. Set the stage; prepare yourself and space ahead of time
2. Get ready to perform; know your lines and your subject
3. Overcome your fear of public speaking
  - Breathe slowly and deeply before your talk
  - Visualize yourself giving a relaxed talk to a receptive audience
  - Do affirmations. Tell yourself you are relaxed, confident — whatever works for you



# Summary Checklist

4. Stride up to the podium
5. Stand tall and keep your chest lifted
6. Smile; you appear more relaxed; reduces stress
7. Speak up
8. Take your time, but stay on time
9. Talk to the audience, not the screen
10. Don't drift off at the end
  - Say “That concludes my presentation. Thank you for your attention.”
  - Ask for questions



# Be yourself...your professional self!

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- Be personable; helps to establish rapport
- Be yourself...your professional self



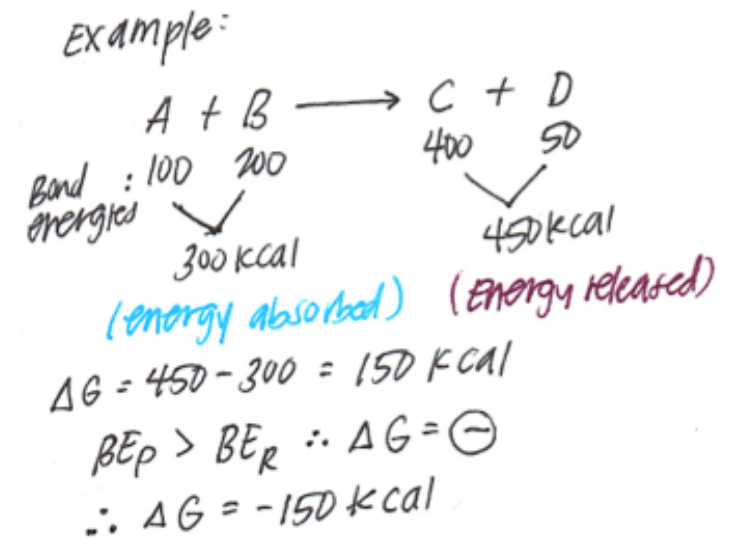
# Taking questions

- Listen to the question first
- Repeat question, if necessary
- Reply with confidence
- Take your time to explain, remember others don't know as much as you do about your research
- Its okay to not know the answer, admit it and research it

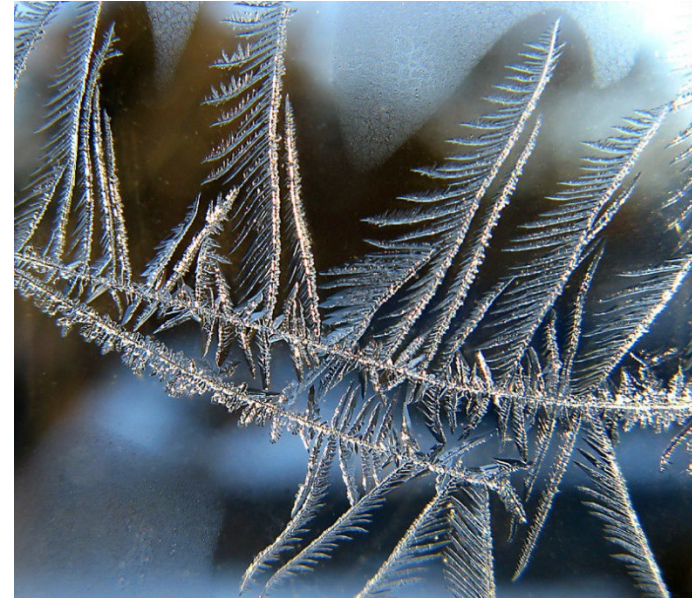


# A few examples

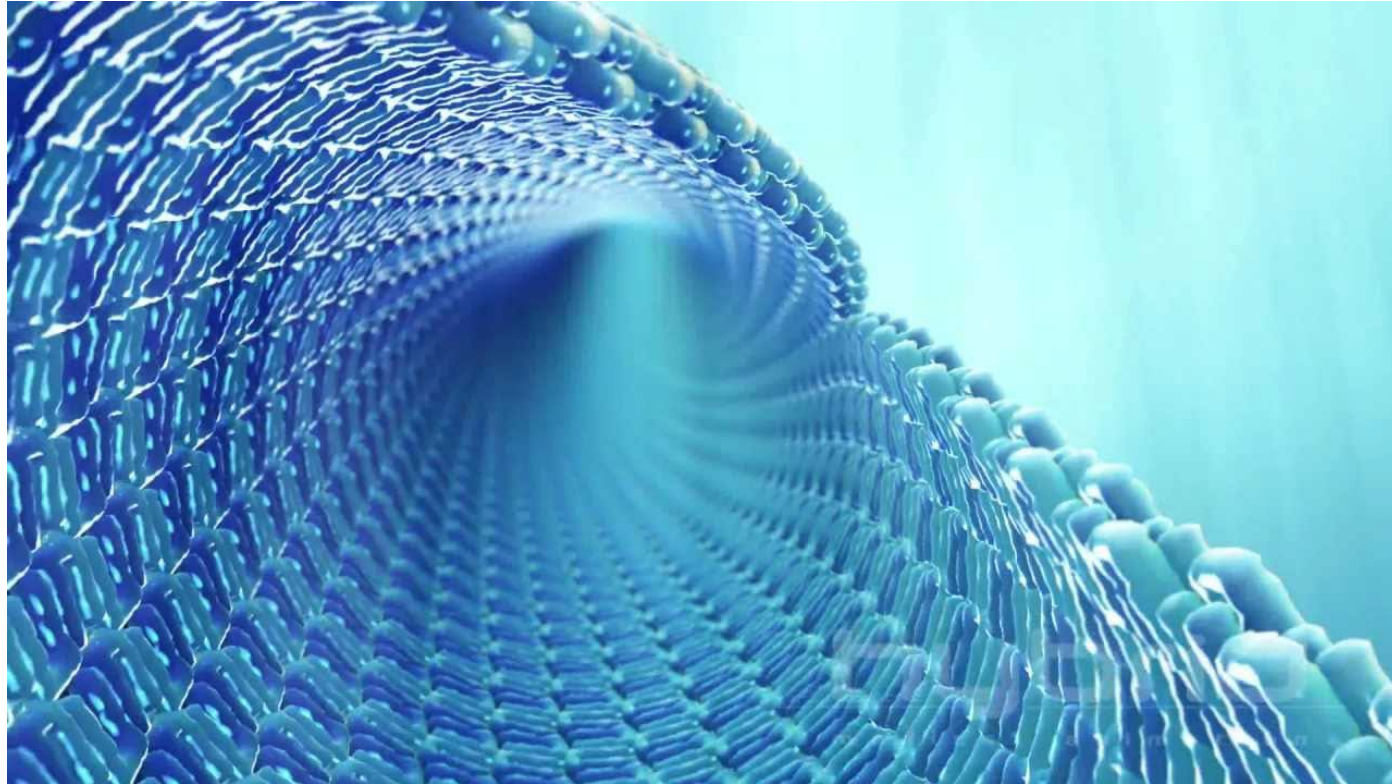
- Include multiple methods
  - Imagery
  - Motion/video
  - Analogies
- So much content is at your fingertips
- Following are slides from a leadership talk to scientists



# Natural self assembly



# Self assembly of carbon nanotube



<http://www.youtube.com/watch?v=1kWApU3o6ko>

# Coordinated Self Assembly in Organizational Leadership



<http://robohub.org/the-distributed-flight-array-modular-robots-that-self-assemble-coordinate-and-take-flight/>

# Student Oral Sessions: Important Dates/Times

- Assignments (when/where) sent week of Feb 26
- Poster presentations
  - Friday, March 15<sup>th</sup>
    - 10:00 am - 12:00 pm Oral Presentations Session 1
    - 4:00 pm - 6:30 pm Oral Presentations Session 2
  - Saturday, March 16<sup>th</sup>
    - 8:00 am - 10:30 am Oral Presentations Session 3
    - 11:00 am - 12:30 pm Oral Presentations Session 4
- Awards announced during closing banquet on Saturday, March 16<sup>th</sup>
  - 5:30 pm - 9:00 pm Plenary Session 4 and Awards Banquet



# Other Important Dates

## Conference March 14-16, 2024

Event	When
Student orientation & networking onsite	Thursday, March 14, 4:00-5:30pm Eastern*

\* Check the Whova App for room number

# Summary

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- Giving an oral presentation advances your professional skills and standing
- Be sure to review & follow judging criteria
- Prepare your slides
  - Professionally
  - Don't over crowd
  - Use mixed media
  - Ensure proper grammar, punctuation, and use of terms
- Prepare yourself
- Present with confidence, clear and understandable voice
- Discussion: listen, confirm, answer; ok not to know
- Tell an understandable story to target audience



# Questions?



Questions?



Comments



Feedback/suggestions

# Good Luck!

THANK YOU



**Mary Ann Leung, Ph.D.**  
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<http://shinstitute.org/>

# Closing Thoughts

- **Please complete the post-webinar survey via email-**  
<https://www.surveymonkey.com/r/8K688N7>
- For more info on the ERN Conference visit - <https://emerging-researchers.org/>
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