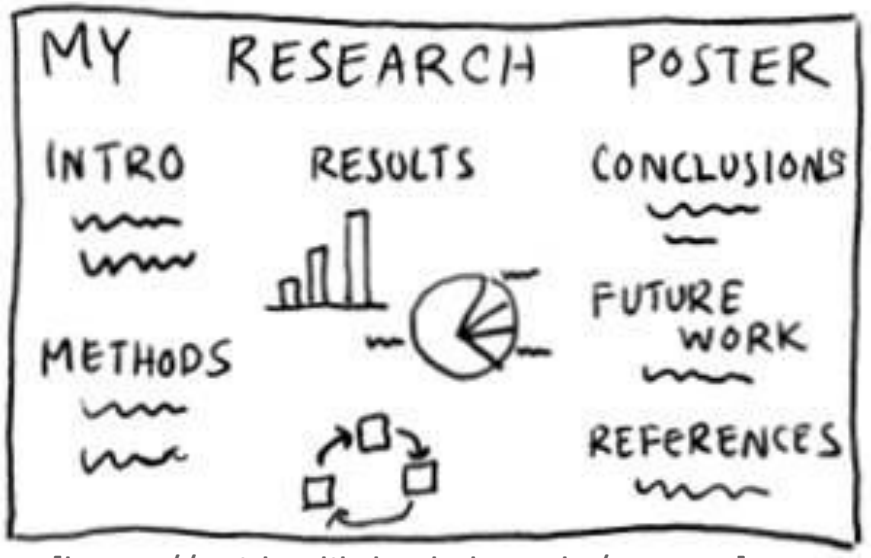
NCAR | NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

How to make a NICE poster presentation

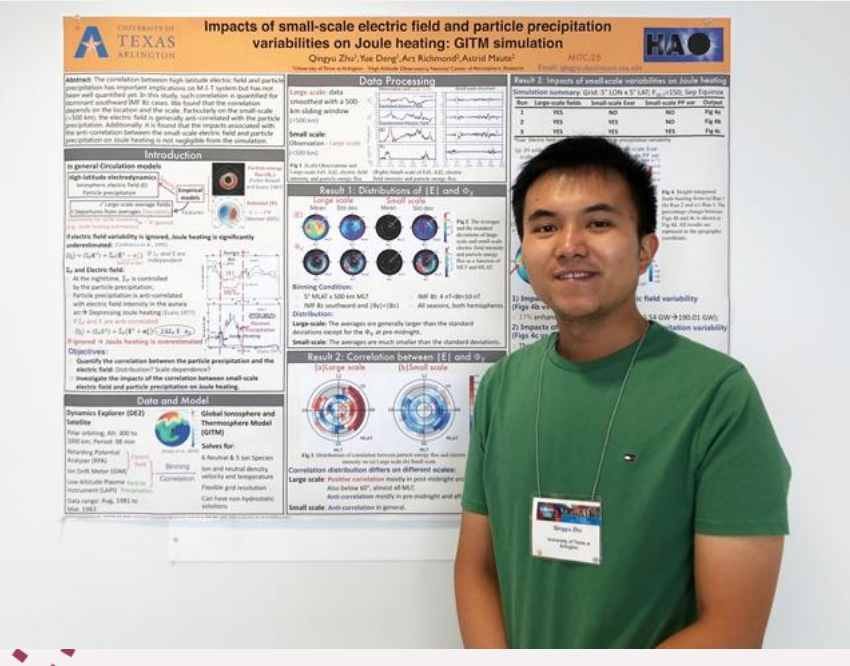
Qingyu Zhu (NCAR ASP)



[https://guides.lib.berkeley.edu/posters]

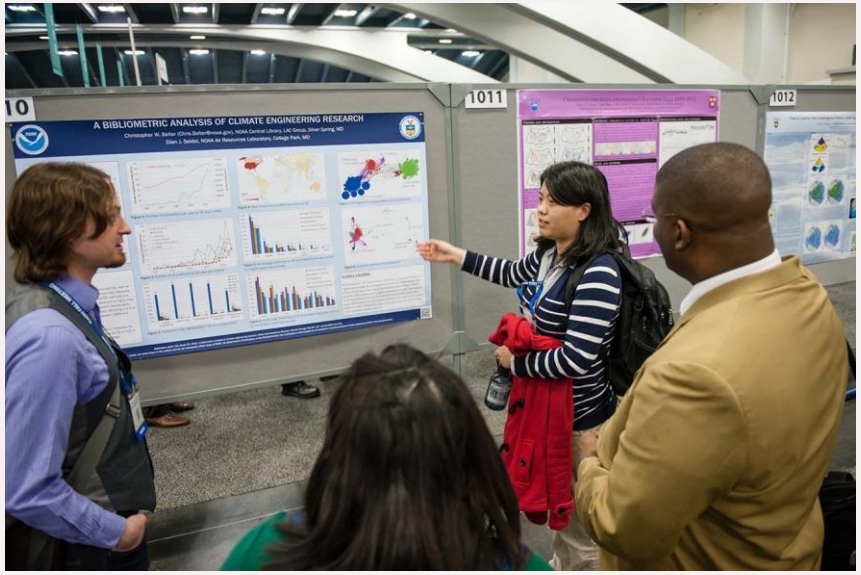
Poster Presentation

Poster



- Limited space

Presentation



- Presentation + discussions

Plan for your poster

- **What are the major findings from your research project?**
  - Select those with new insights
    - Observations
    - Simulations
    - Approaches

Plan for your poster

- **What are the major findings from your research project?**
  - Select those with new insights
- **How do you present them to the conference attendees?**
  - Figures, tables, text …
  - Select necessary figures/tables
- **Let’s start the journey of making a poster!**

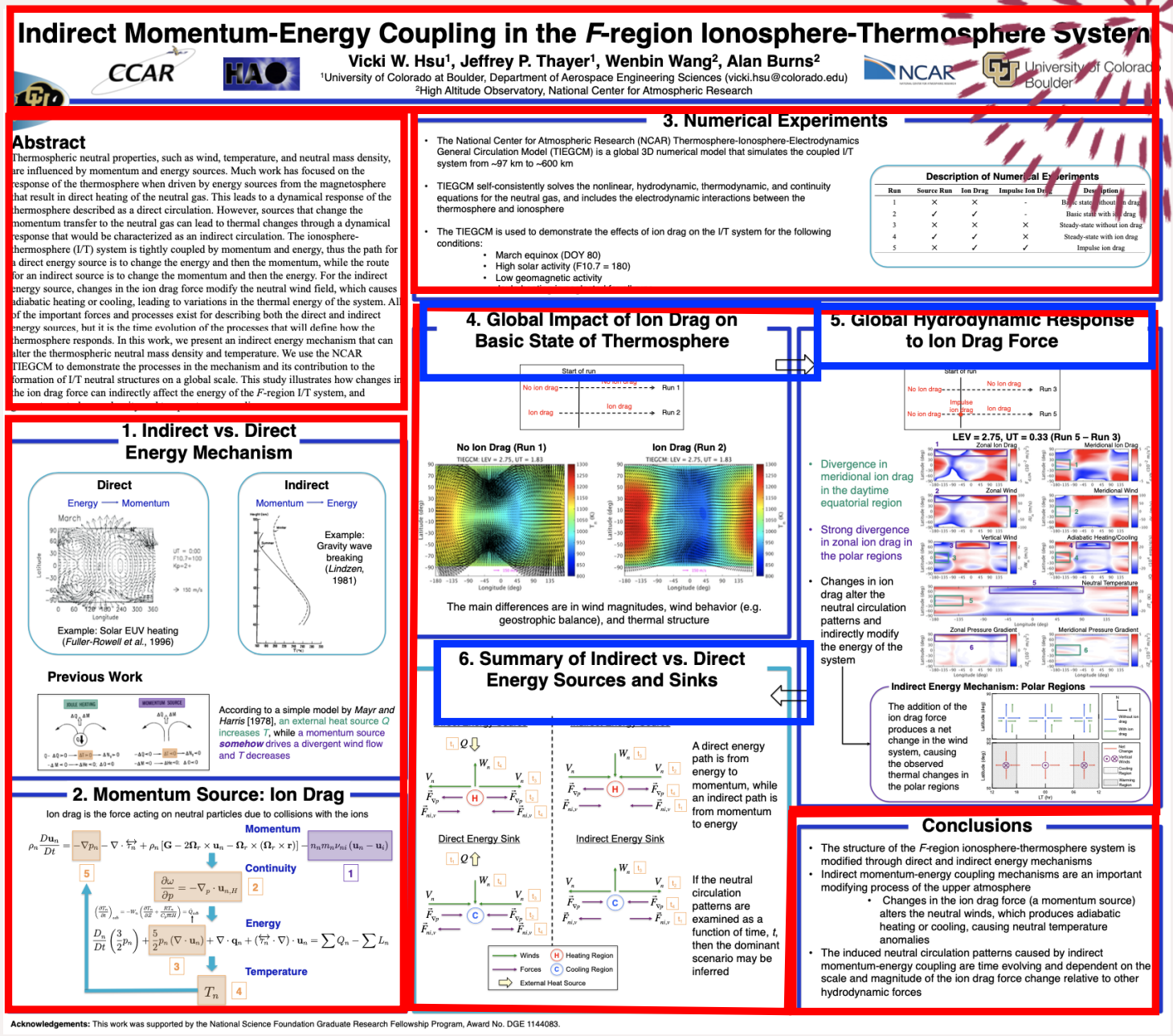
Design your poster

- **Arrange the contents in blocks**
  - Introduction, methodology, results …
  - Headings
- **Organize the blocks in orders**
  - Have some obvious flows
    - Top to bottom
    - Left to right

Text & Visuals

Poster

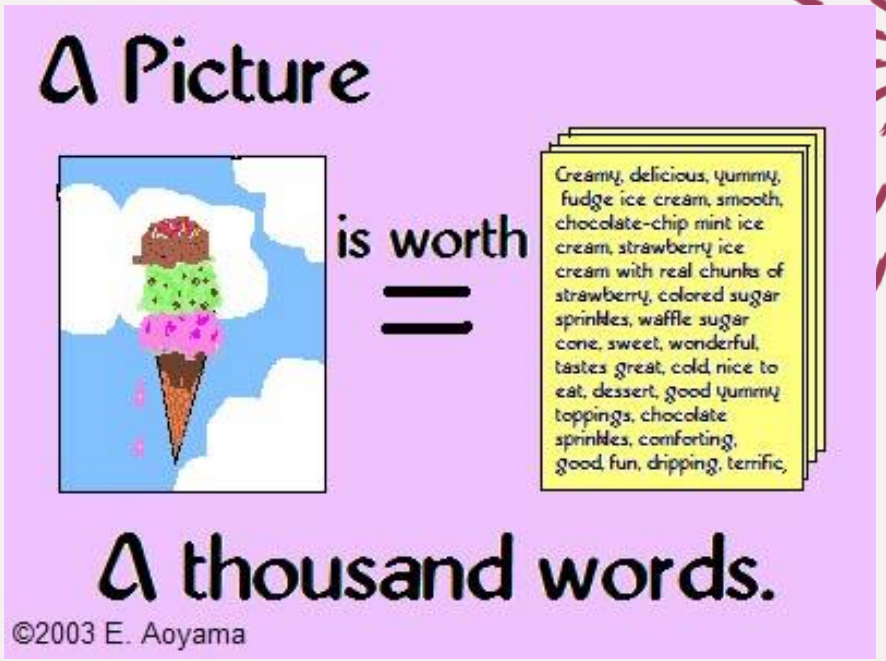
- **Components are complete**
  - Title
  - Abstract
  - Introduction & Motivation
  - Methodology
  - Results
  - Conclusion
- **Flow is quite obvious**
  - Numbers in headings
  - Arrows between blocks

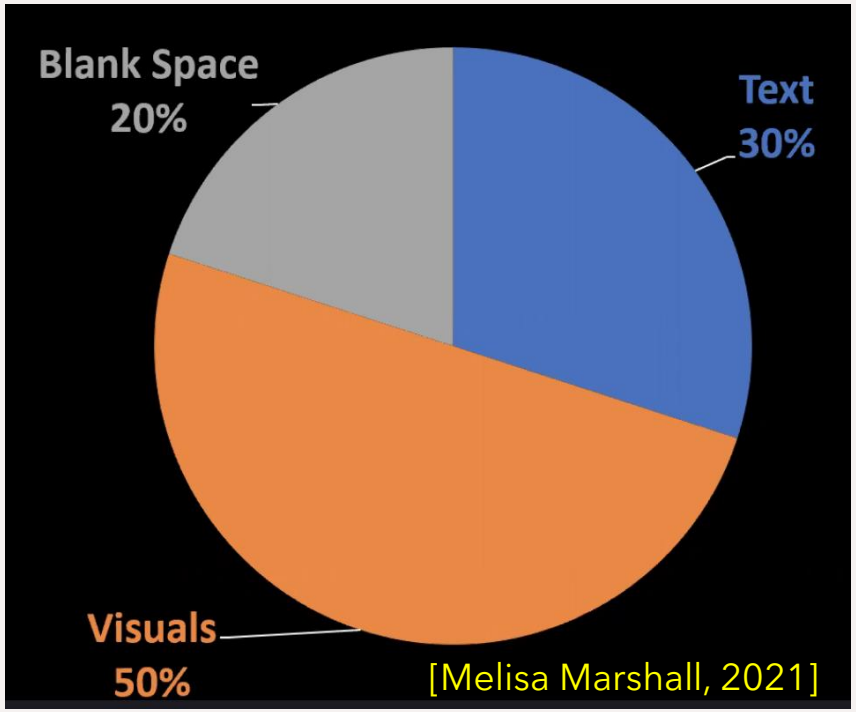


[Vicki Hsu, 2015 CEDAR]

Design your poster

- **Visuals are important**
  - Figures, tables …
  - **Largest area**
- **Text is also needed**
  - e.g., Annotations, conclusions …
  - **Concise**
- **Balance visuals and text**
  - e.g., 50% visuals : 30% text : 20% space





[Melisa Marshall, 2021]

Work on your poster

- **Figures**
  - Simple and illustrative
  - Make text shown in the figure large enough
  - Caption the figure clearly and as concisely as you can
  - Try to use thicker lines, ticks and axes
  - Choose colors carefully (Contrast)
  - Part of an existing figure might be better than a full figure

[Lindsay Goodwin, 2017 CEDAR]

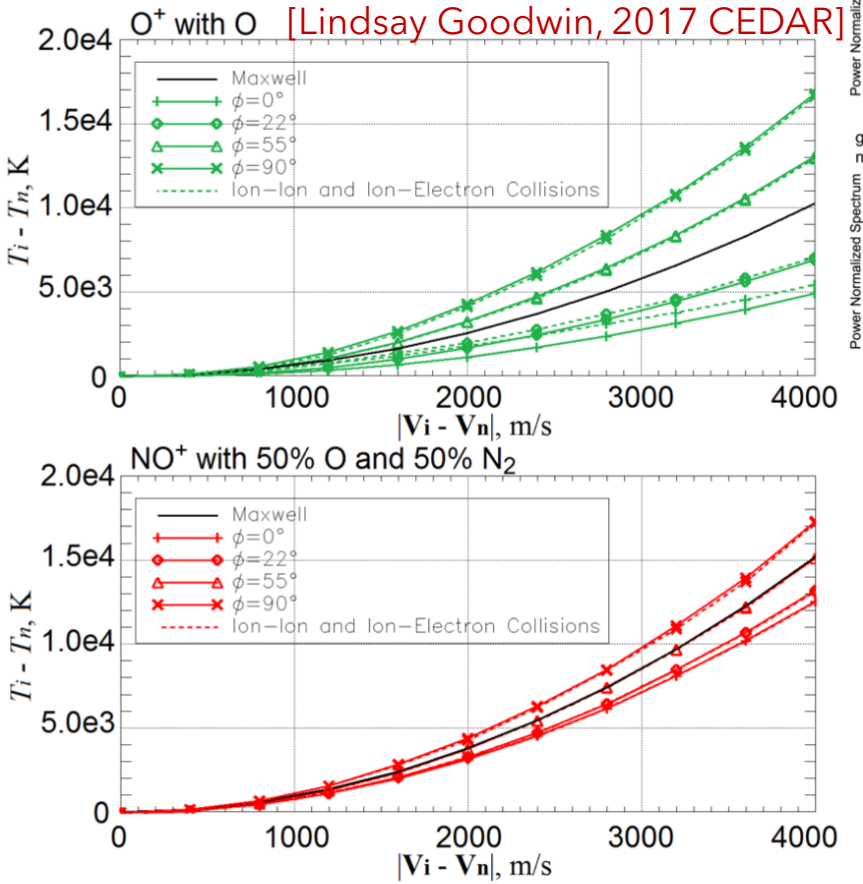
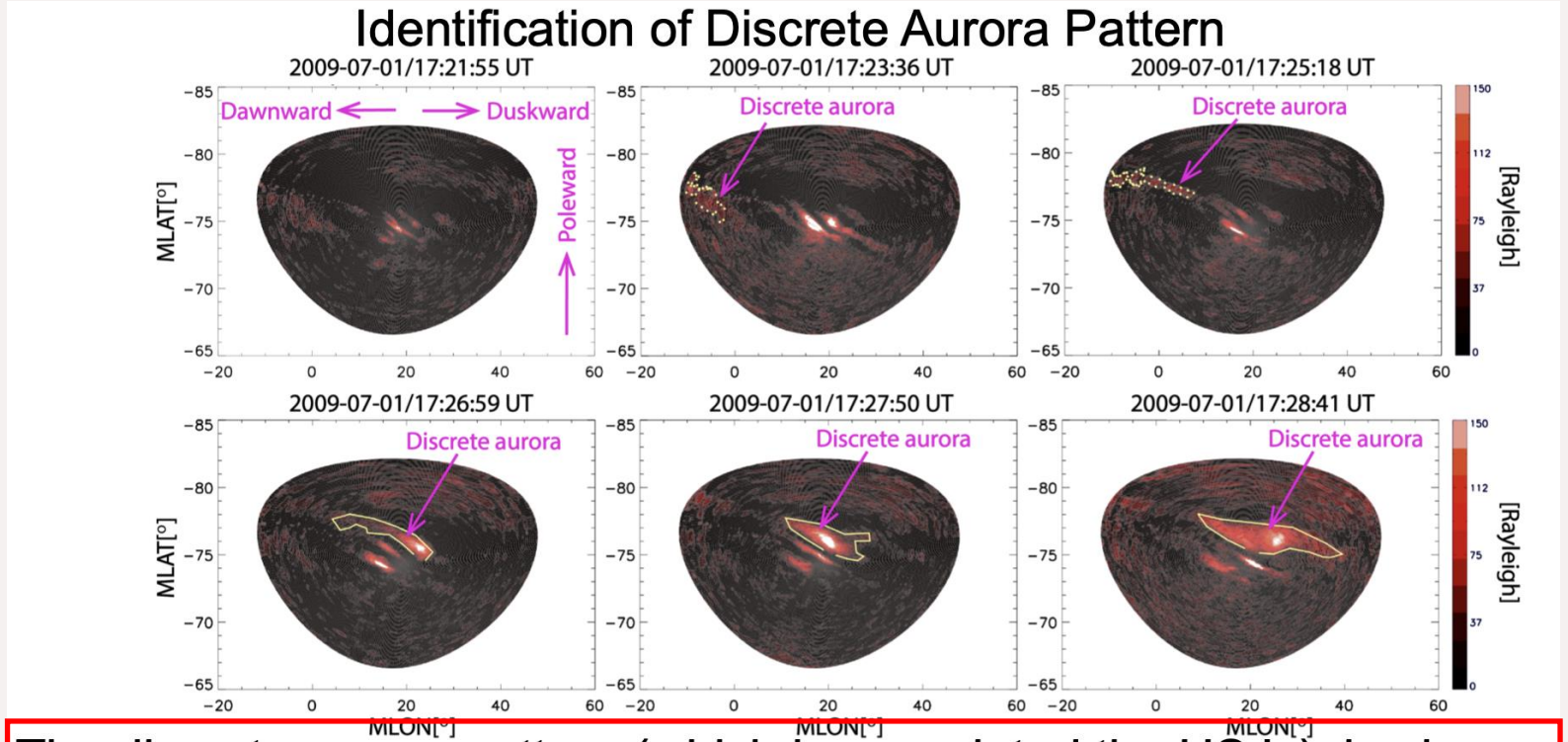


Figure 3: The ion-neutral relative temperature difference, $T_i - T_n$, as a function of the relative drift, $|\mathbf{V_i} - \mathbf{V_n}|$, at a variety of aspect angles. The top panel examines O^+-O collisions using the "Pesnell" RCE cross-section, and the bottom panel examines NO^+ collisions with 50% O and 50% N_2. The black lines gives the average relative ion-neutral temperature difference according to the Maxwell molecule formulation ($T_i - T_n = |\mathbf{V_i} - \mathbf{V_n}|^2 m_n / 3k_b$, where m_n is the neutral mass and k_b is the Boltzmann constant). The solid lines reflect the influence of ion-neutral particle collisions, and the dashed lines incorporate self- and ion-electron collisions.

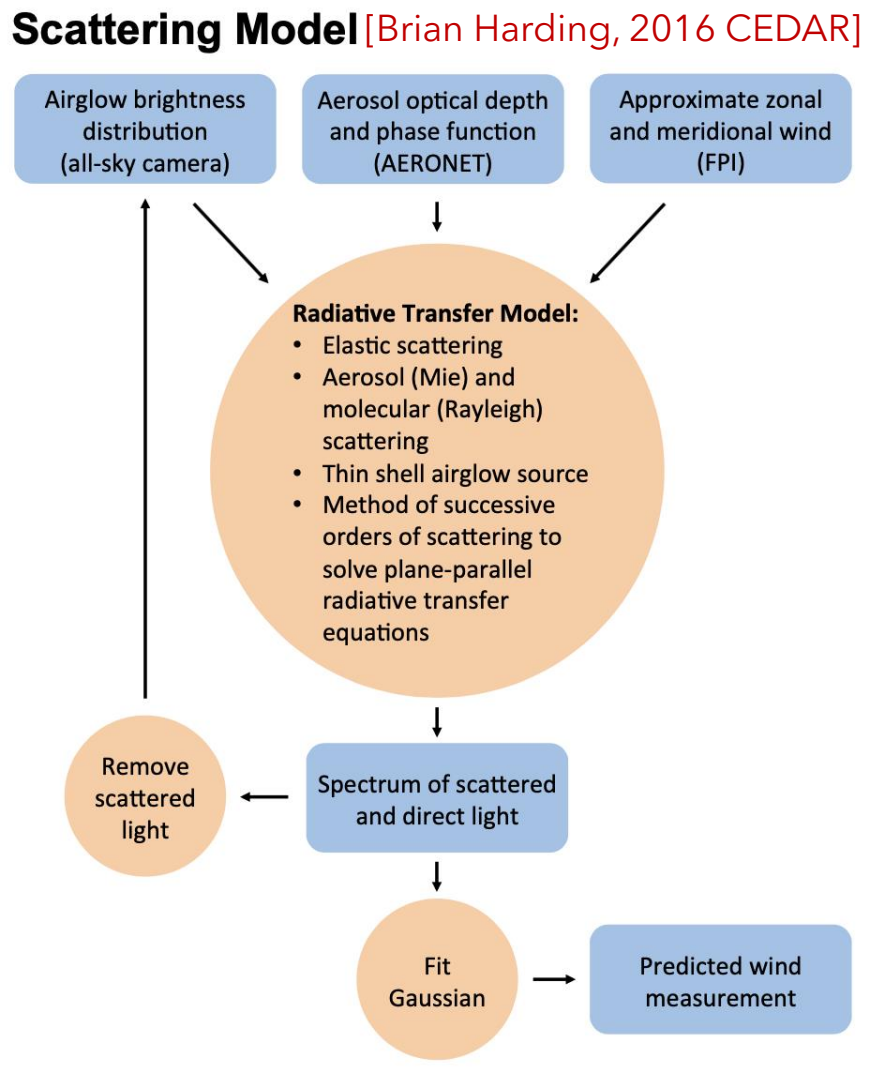


The discrete aurora pattern (which is associated the HSJs), is also identified with duskward motion.
This is consistent with the azimuthal propagation of the diffuse aurora pattern and the Vy of the magnetosheath flow. [Boyi Wang, 2017 GEM]

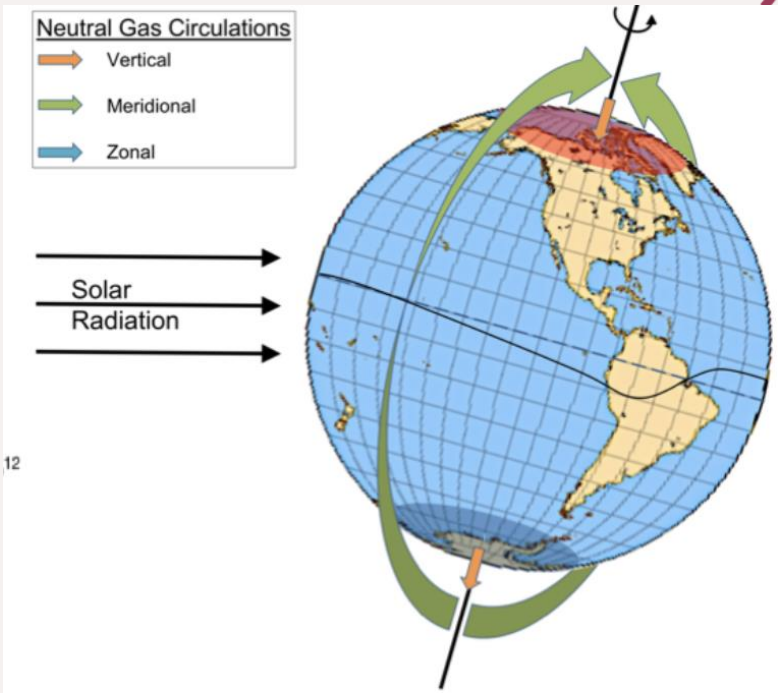
- **Figures (Cont.)**
  - Add necessary annotations when making posters
  - Put the points you want to convey through the figure nearby

- **Besides data visualization, you can create figures for illustrations**

  - **Explain an algorithm**



  - **Explain a mechanism**



Adiabatic heating/cooling regions in the upper thermosphere, as interpreted from helium concentrations.

[Hannah Holt, 2018 CEDAR]

Winter helium bulge is a consequence of large scale, divergent, meridional circulations that produce bulk vertical motion.

Work on your poster

- **Tables**
  - Simple but illustrative
  - Caption the table clearly
  - Put the points you want to convey through the table near the table

- **Table can be used to summarize simulations**

Simulation summary: Grid: 5° LON x 5° LAT; $F_{10.7}$=150; Sep Equinox

Run	Large-scale fields	Small-scale Evar	Small-scale PP var	Output
1	YES	NO	NO	Fig 4a
2	YES	YES	NO	Fig 4b
3	YES	YES	YES	Fig 4c

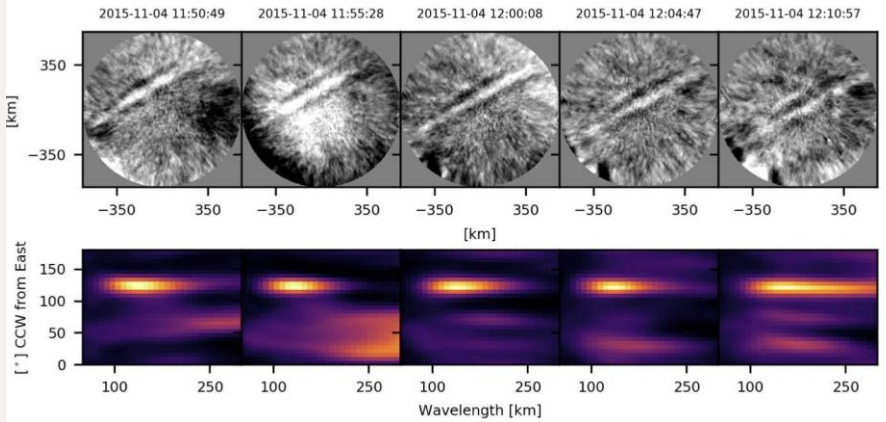
*Evar: Electric field variability *PP var: Particle precipitation variability

[Qingyu Zhu, 2018 CEDAR]

- **Tables can be used to summarize results**

For each of the dates, the top row in each figure show 5 temporally filtered frames from the event. The bottom row shows the energy surface output from the directional filtering step for each frame. The actual wave measurements are provided in the rightmost tables.

4 November 2015



Measurements	
Wavelength	164 (±44) km
Orientation	297 (±2) °
Period	13.9 (±2.2) min
Phase Speed	194 (±24) m/s

[Matthew Grawe, 2017 CEDAR]

Work on your poster

- **Text**
  - Might be good to use **Sans Serif** fonts
  - **Bold** or non-bold
  - Choose the color and font size carefully (>32 pt)
    - Print your poster on a letter paper and see whether you can see the text well
  - Avoid typos

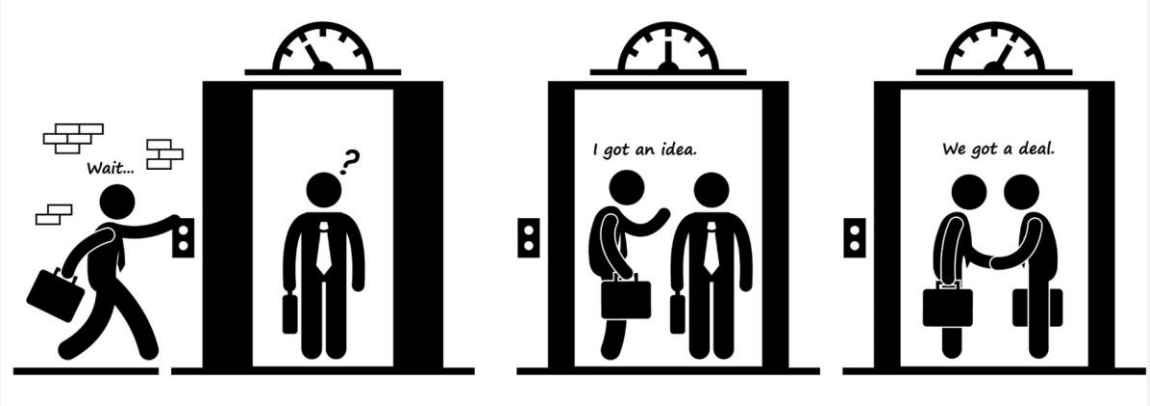
Before finalizing your poster

- **Check:** Is your poster easy to follow in the absence of presenter?
  - Are all the necessary parts included?
  - Is the frame neat enough?
  - Is the font/font size/font weight/color of the text proper?
  - Is the text concise and informative?
  - Are the visuals informative and easy understood?

- **Revision makes perfect!**

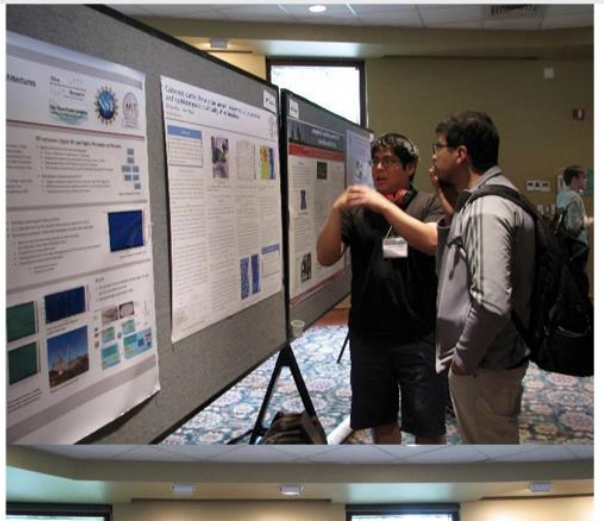
Present your poster

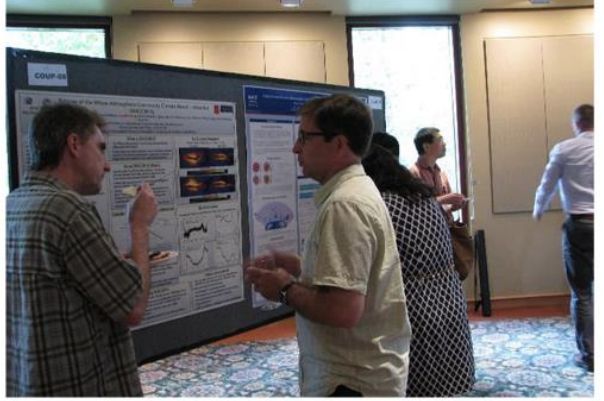
- **<u>Preparation:</u>**
  - Prepare for a 10 min presentation (without interruption)
  - Prepare for a 3 min presentation
  - Scripts could be helpful
  - **Practice makes perfect**

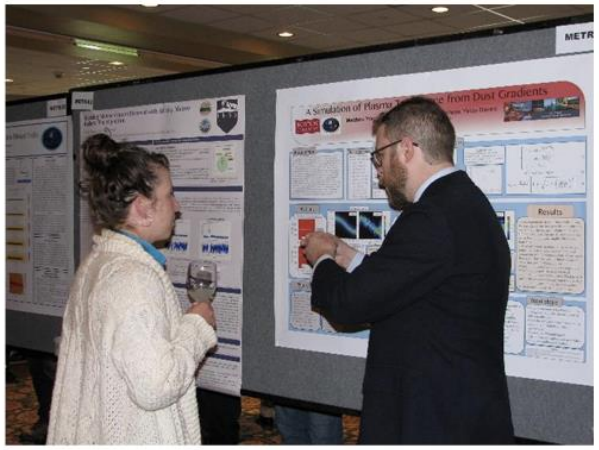


Present your poster

- **Presentation:**
  - Be extrovert
  - Refer to your poster
  - Have the supplement materials ready
  - Be nice to your audiences
    - Make your delivery more accessible
    - Pause for a while when they are looking at the figures







How to make a NICE poster presentation

Neat

(Visually appealing)

Informative

(Have all important information [e.g., Motivations, methods, points of each figure and conclusions])

Concise

(Short and sweet)

Engaging

(Create a good story and deliver it in an efficient way)

Thanks!

More materials

- **Past CEDAR posters:**

  https://cedarscience.org/past-workshops

- **Melissa Marshall: Powerful Posters: Tips & Tricks**

  https://projection.zoom.us/rec/play/wiQSJFtUp6EVQr2M-cf0AhNqfoYxQAWYoLS-S7ZW2IJ2cVgcMuTb4GLsxy5pZ4aYtEaCsEHf0IR-HiI5.tZvC0pTT2IkO5jLL

- **New York University: How to Create a Research Poster**

  https://guides.nyu.edu/posters

- **UC Davis: Creating Effective Academic Posters**

  https://urc.ucdavis.edu/creating-effective-academic-posters

- **Marcia McNutt (2015), It starts with a poster. *Science*, 347 (6226)**

  https://www.science.org/doi/10.1126/science.aab0014

- **More and more …**