Physics 691 - Seminar

How to Give Successful Talks

Fundamental Components of a Good Talk

- Good Story
- Good Slides
- Good Presence

The Story

- **clear beginning -** ***Describe the 'big picture'***
- **clear plan -** ***Describe your question and hypothesis***
- **clear goals -** ***Describe your experiment (keep it high level!)***

The Slides

- **Tell them what you are going to tell them -** ***Have a Title Page and Outline slide***
- **Tell them -** ***Present the Main slides***
- **Tell them what you told them -** ***Have a Summary slide***

IF YOU REMEMBER NOTHING ELSE FROM THIS CLASS, REMEMBER THIS!

The Slides - style elements

- **Budget 1 slide/minute maximum - *goal: be within time limit!***
- **Text: at least 22pt; avoid 'full sentences' - *goal: readable quickly***
- **Images: Convey 1 or 2 concepts - not 10! - *goal: to be understood***
- **Use reasonable color contrasts**
- **DON'T use unnecessary 'flashiness'**

} ***goal: to avoid distraction from the presenter***

- **KISS it! (Keep it simple, stupid!)**

The Presence

- **'Dress for Success' -** ***Avoid wearing 'distracting' items***
- **Engage the audience -** ***Look and talk to audience***
- **Don't read the slides -** ***Try to avoid reading from notes***
- **Body positioning -** ***No butts, no bellies, no hands in pockets***

Fundamental Components of a Good Talk

- **Good Story**
- **Good Slides**
- **Good Presence**

PAY ATTENTION TO YOUR AUDIENCE!

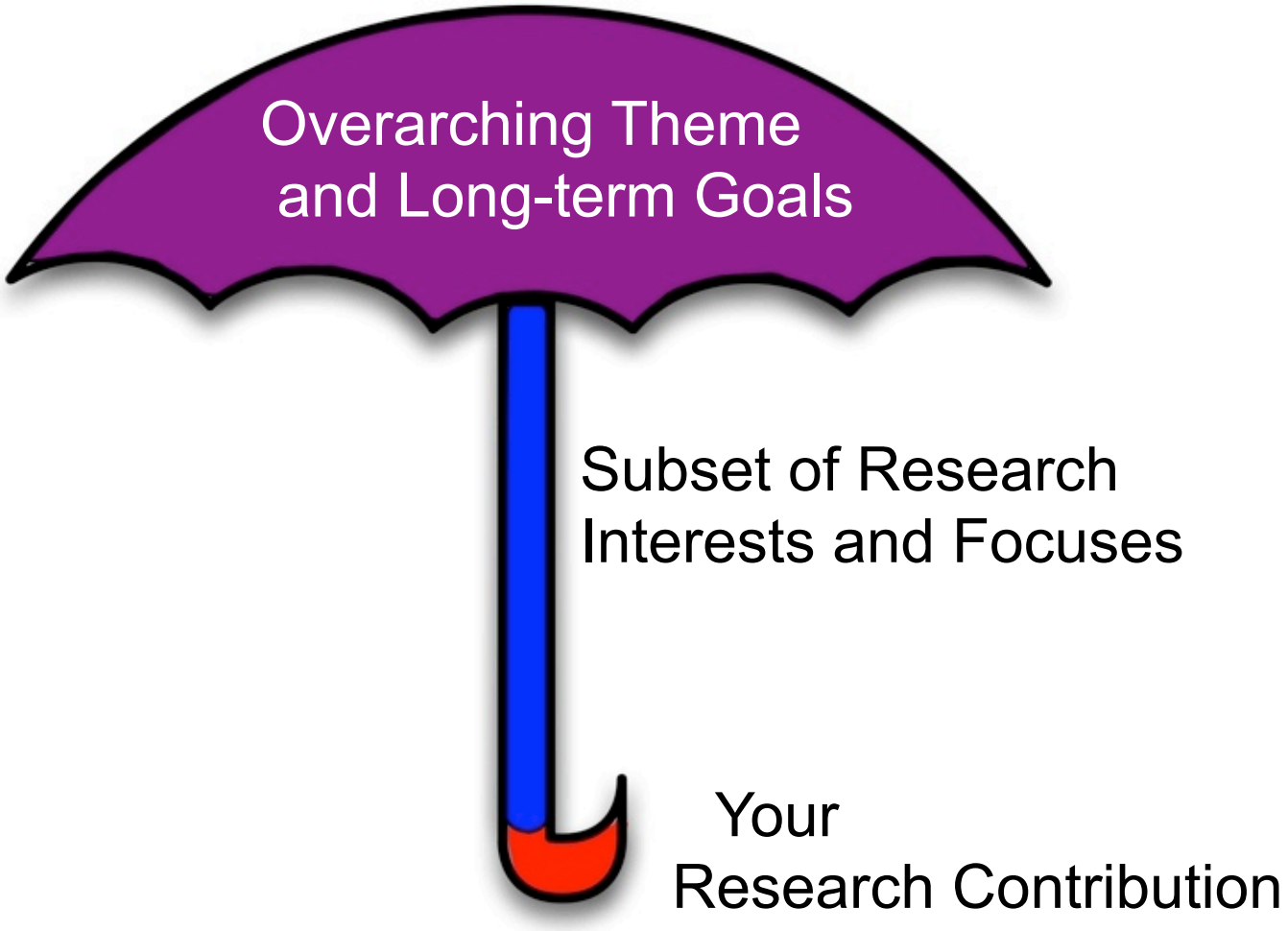
A talk for a 'specialist' audience will be significantly different than for a 'general' audience!

Visualizing Your Research 'Story'

There are many ways to 'visualize'
a science story -
here are a few ideas...

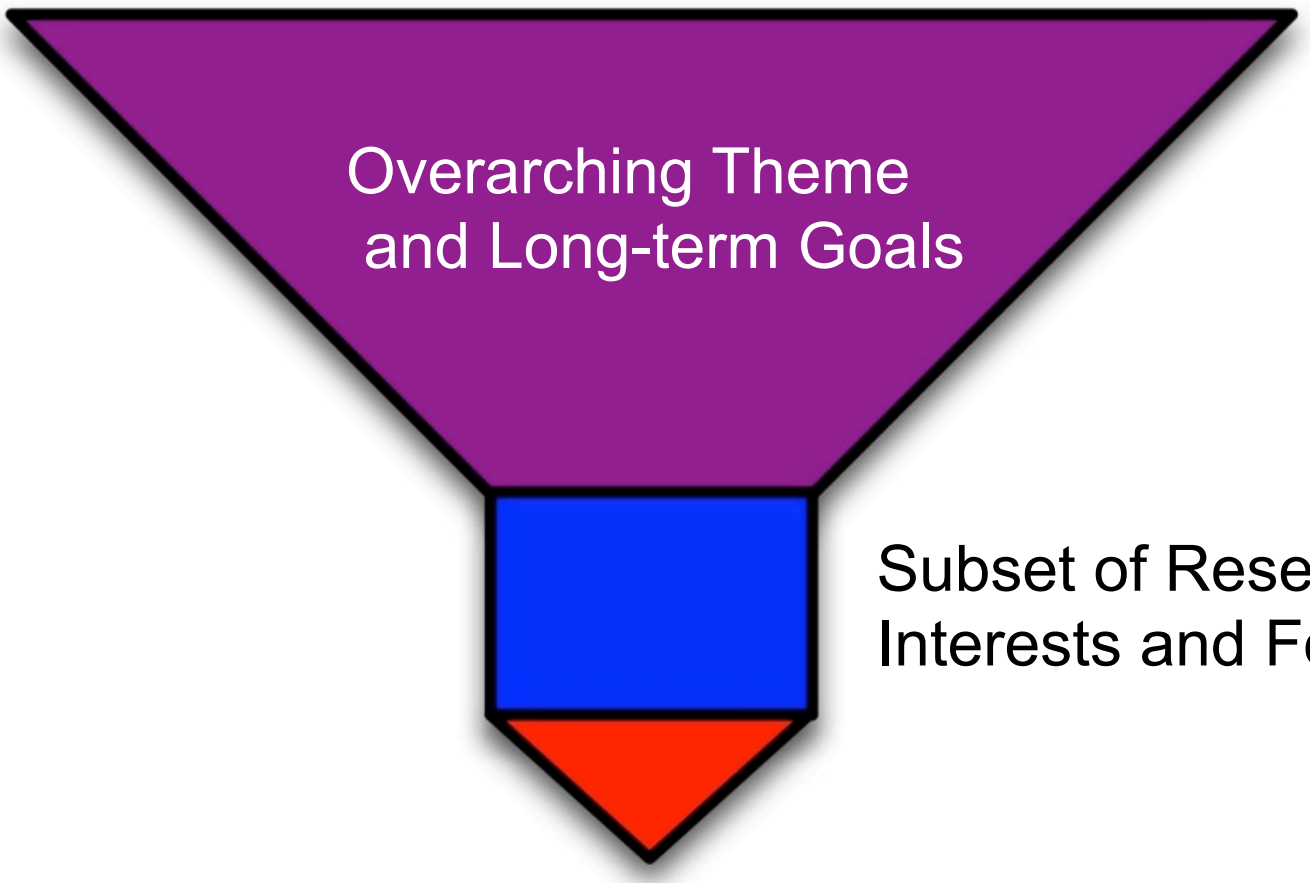
Visualizing Your Research 'Story'

Umbrella Model



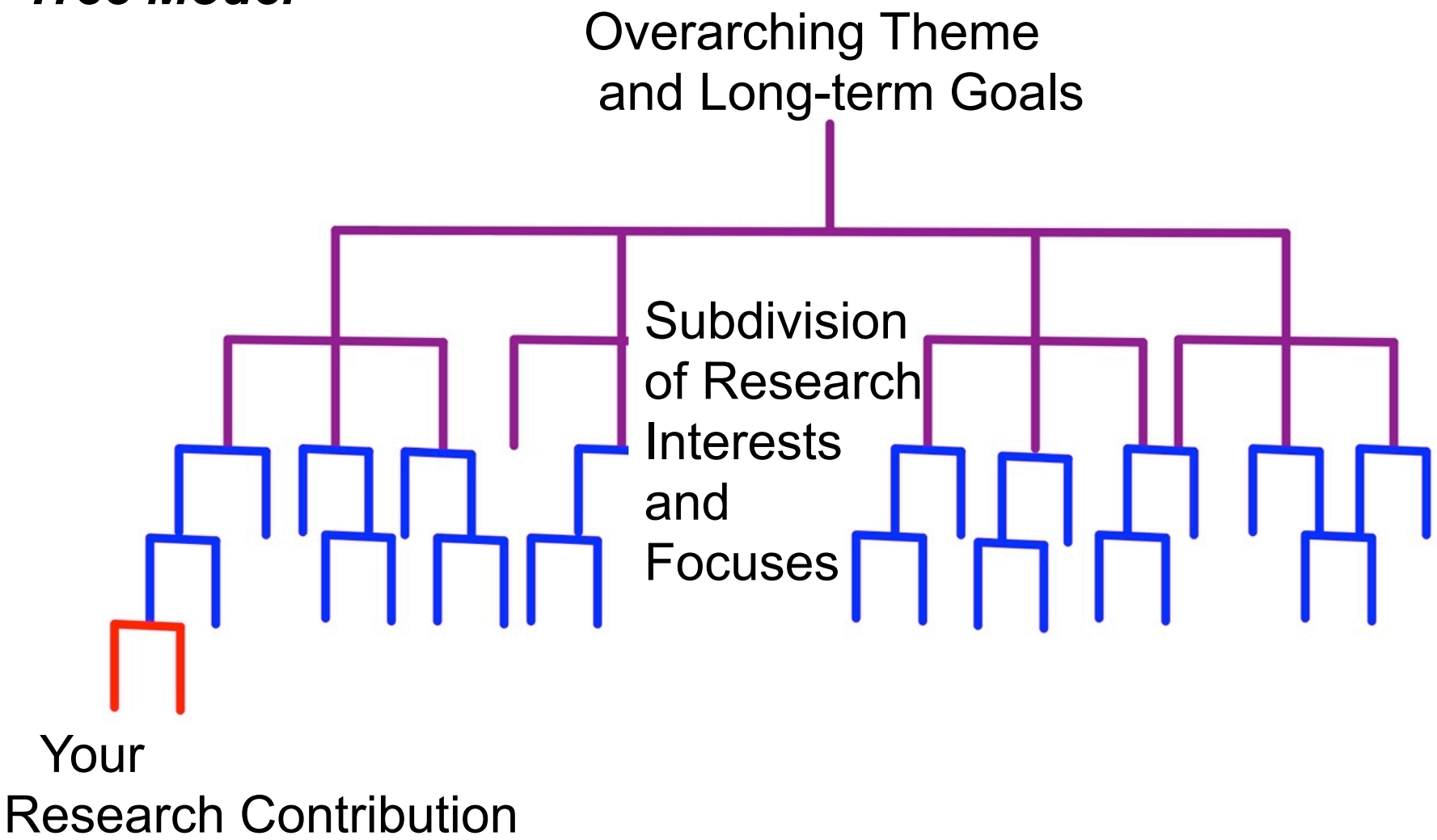
Visualizing Your Research 'Story'

Funnel Model



Visualizing Your Research 'Story'

Tree Model



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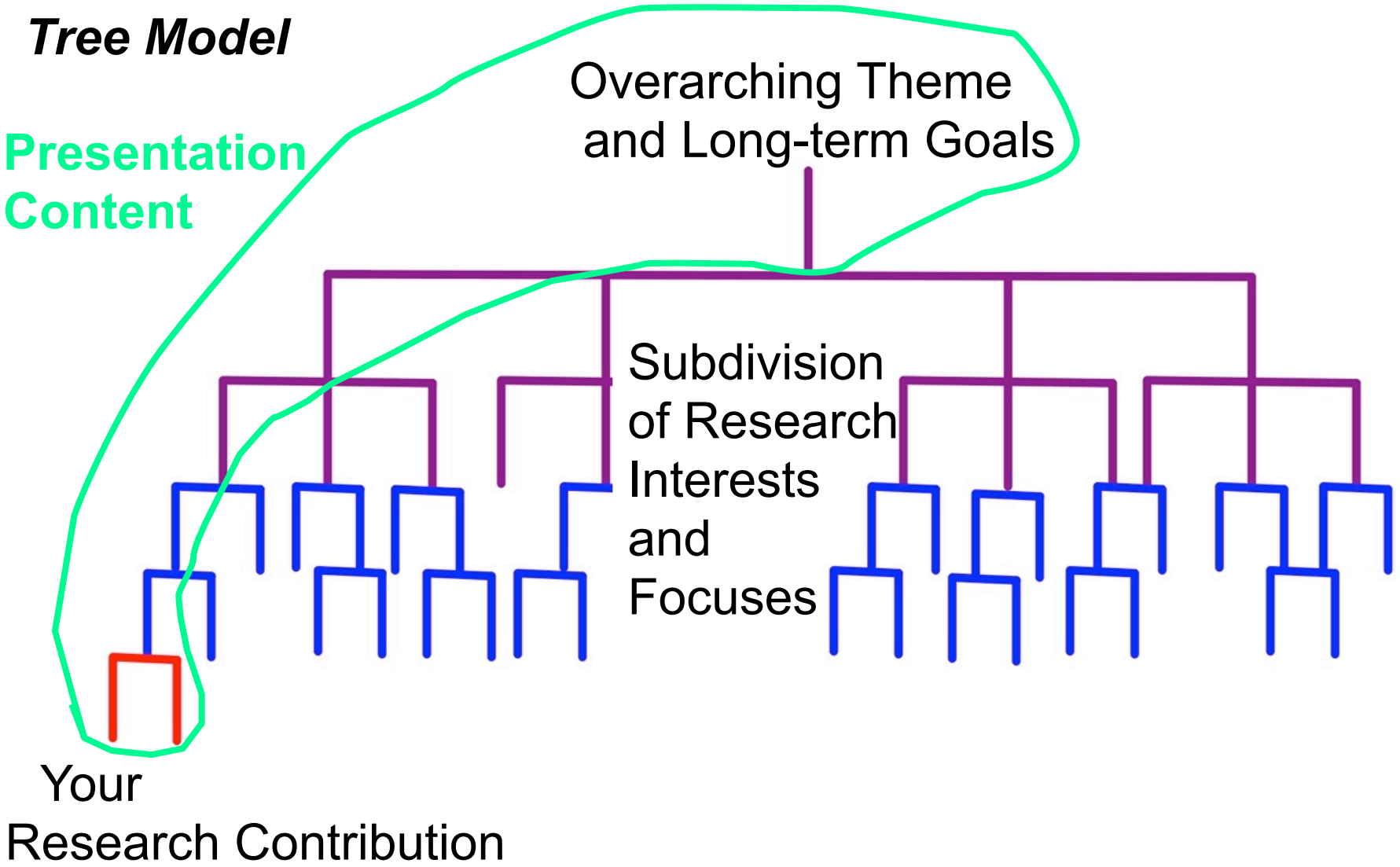

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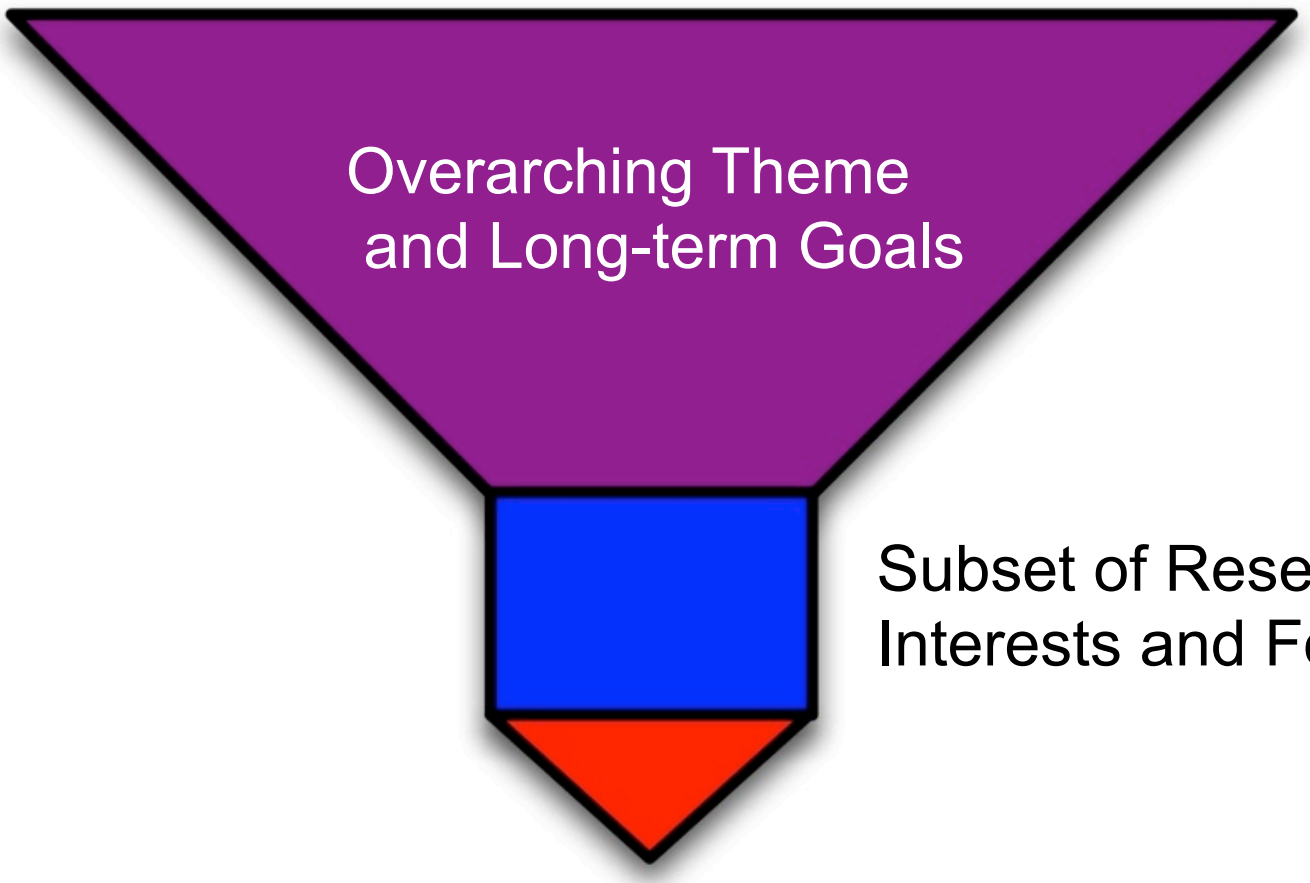

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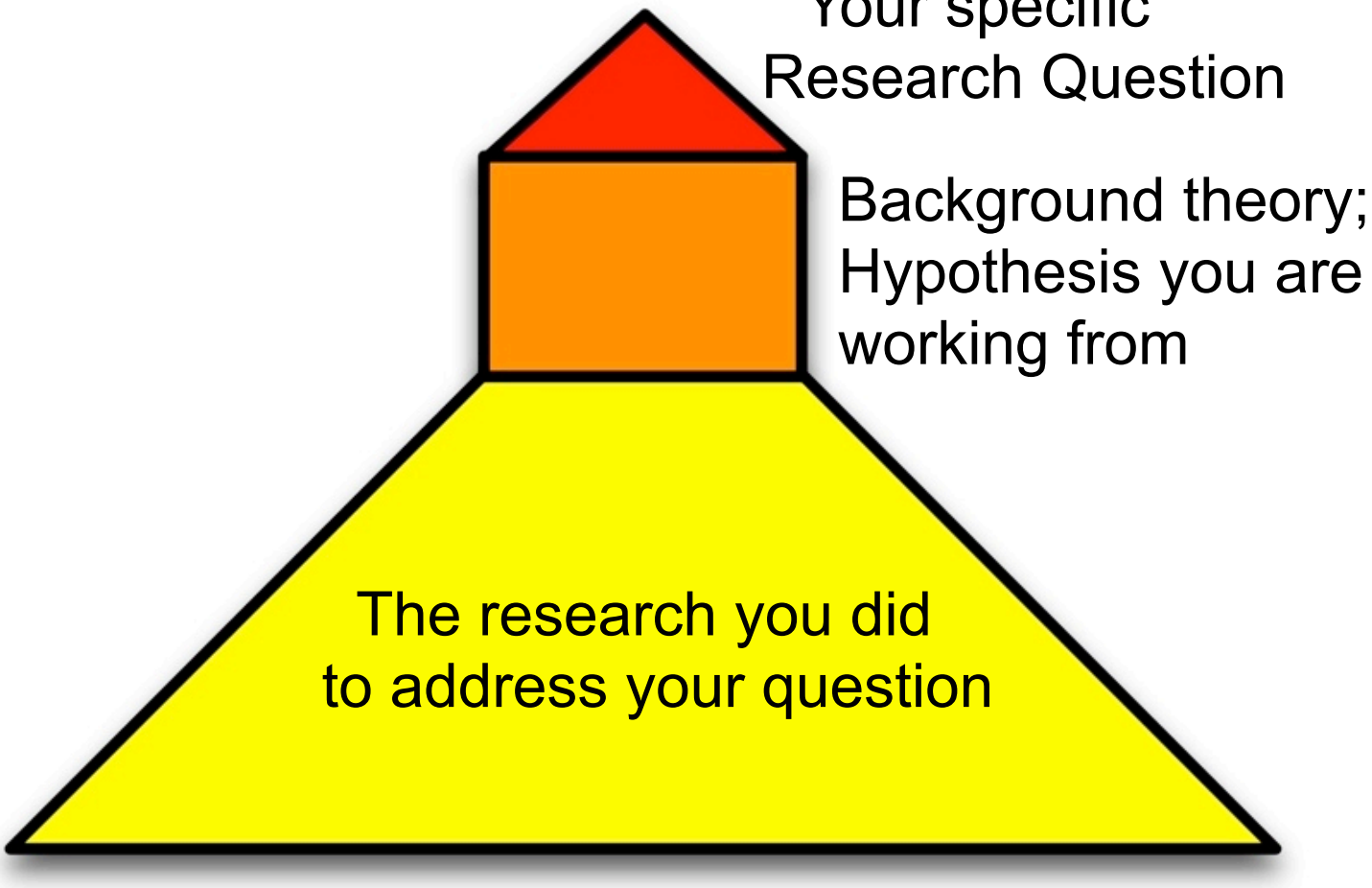

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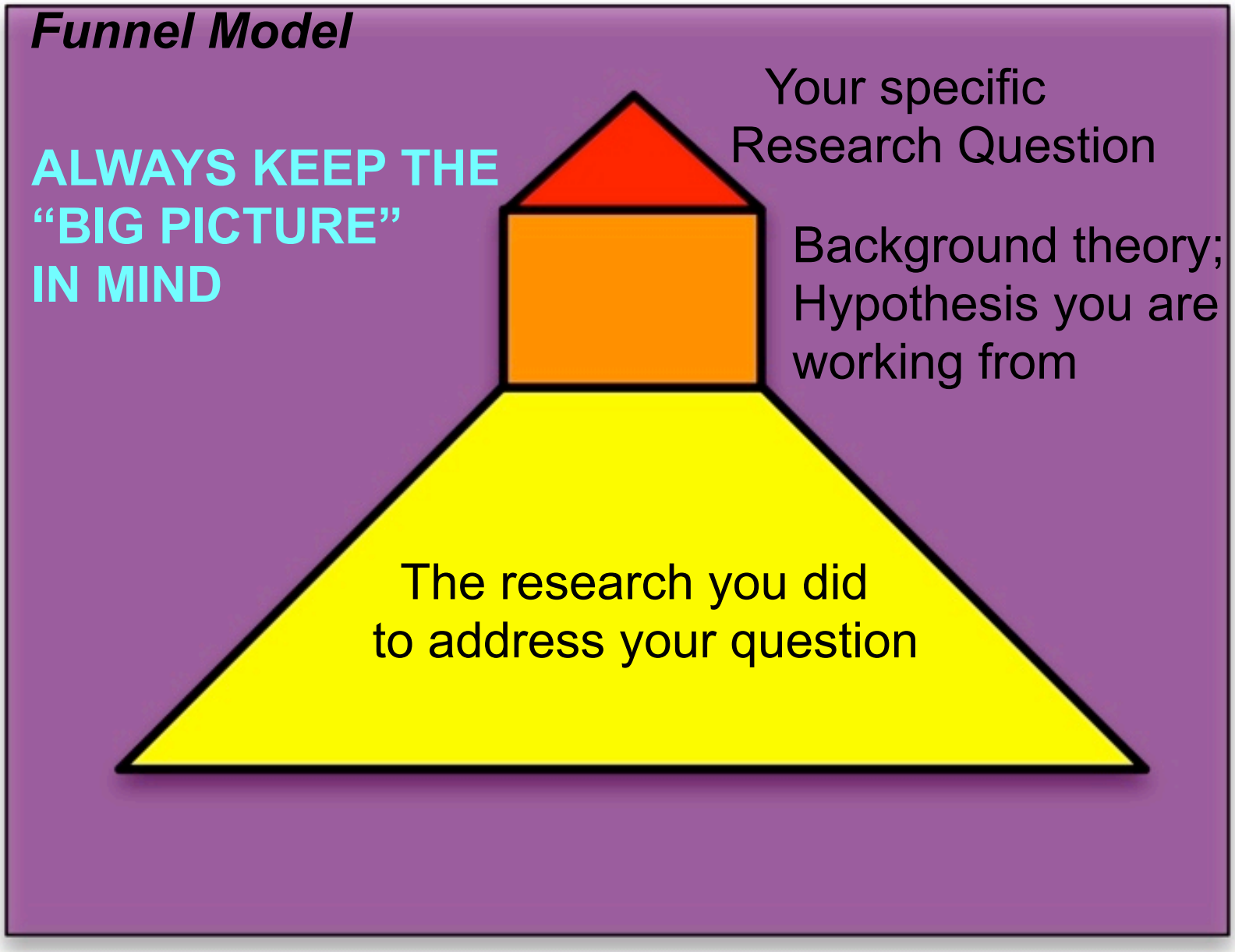

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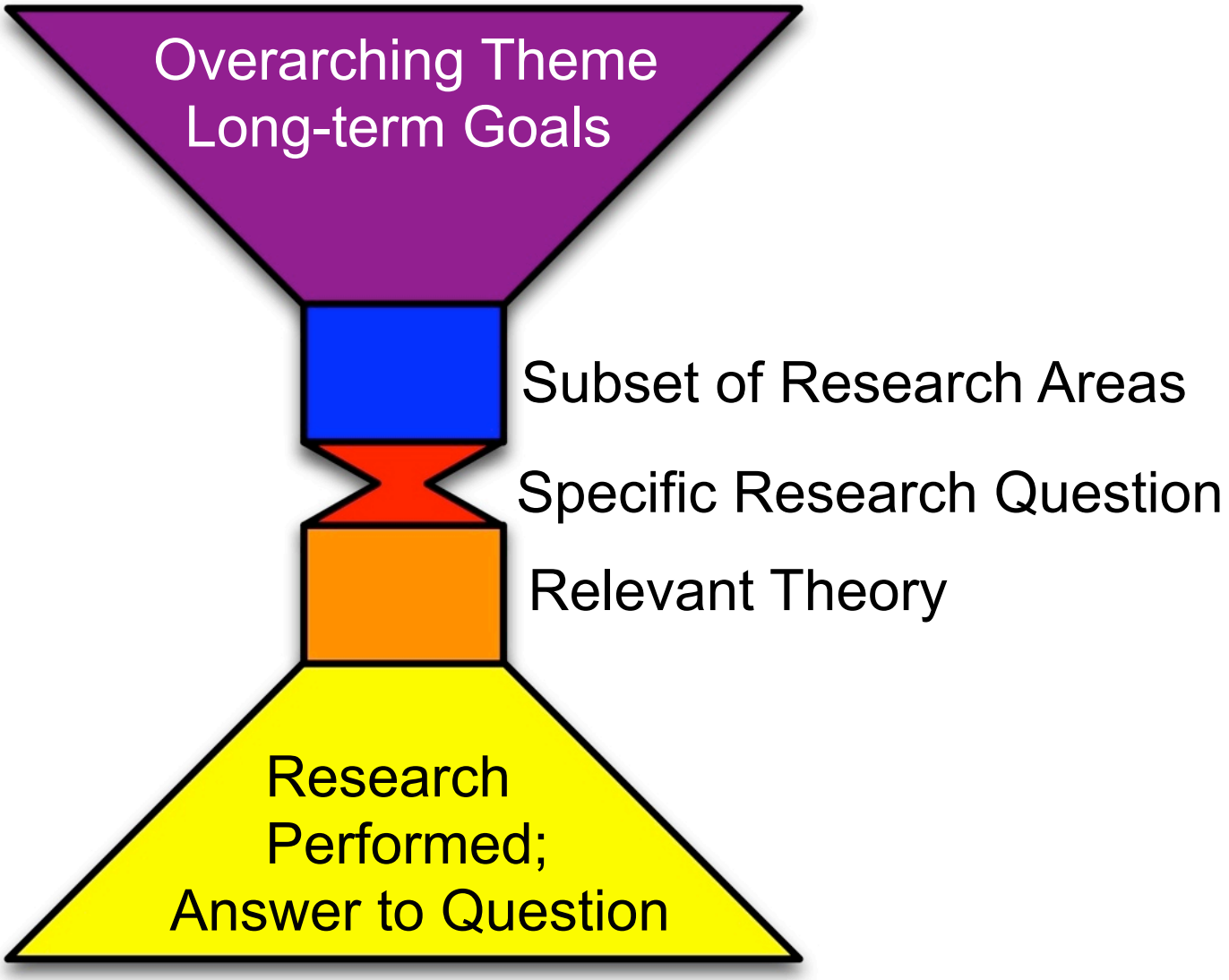
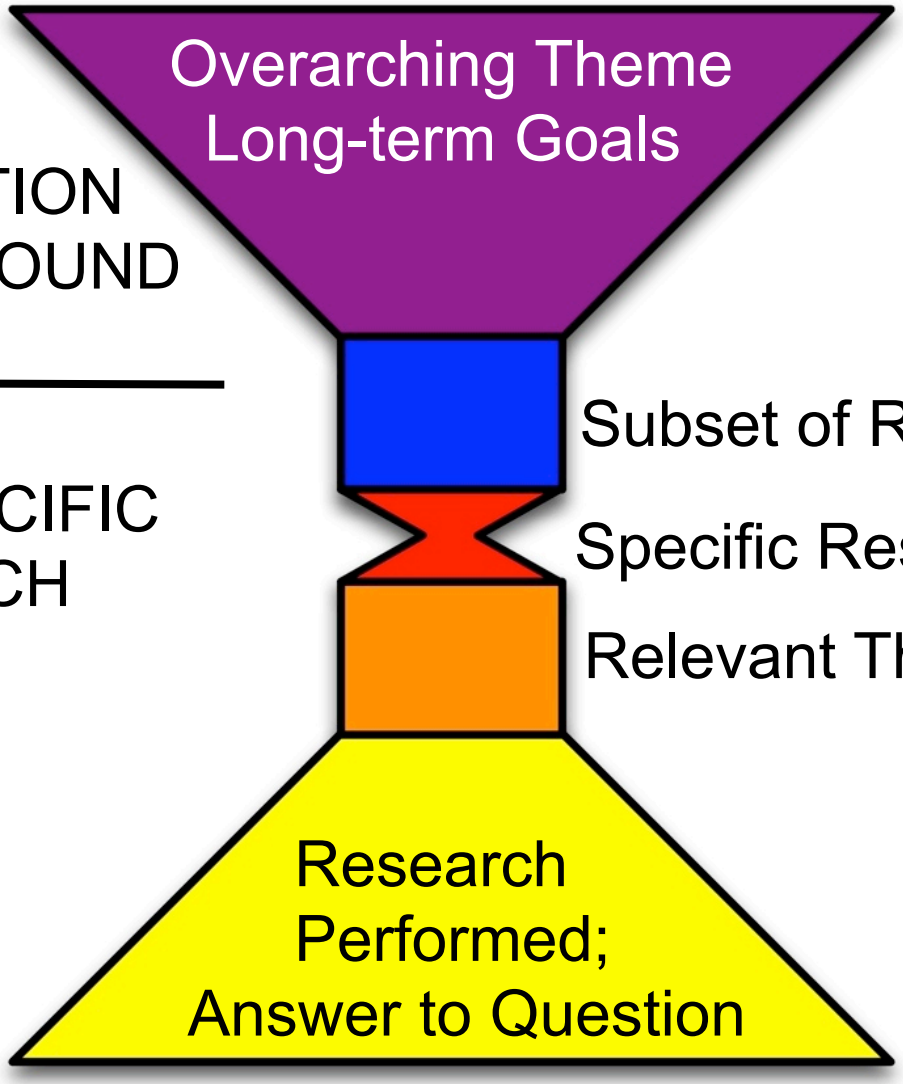


Visualizing Your Research 'Story'

INTRODUCTION and BACKGROUND

YOUR SPECIFIC RESEARCH



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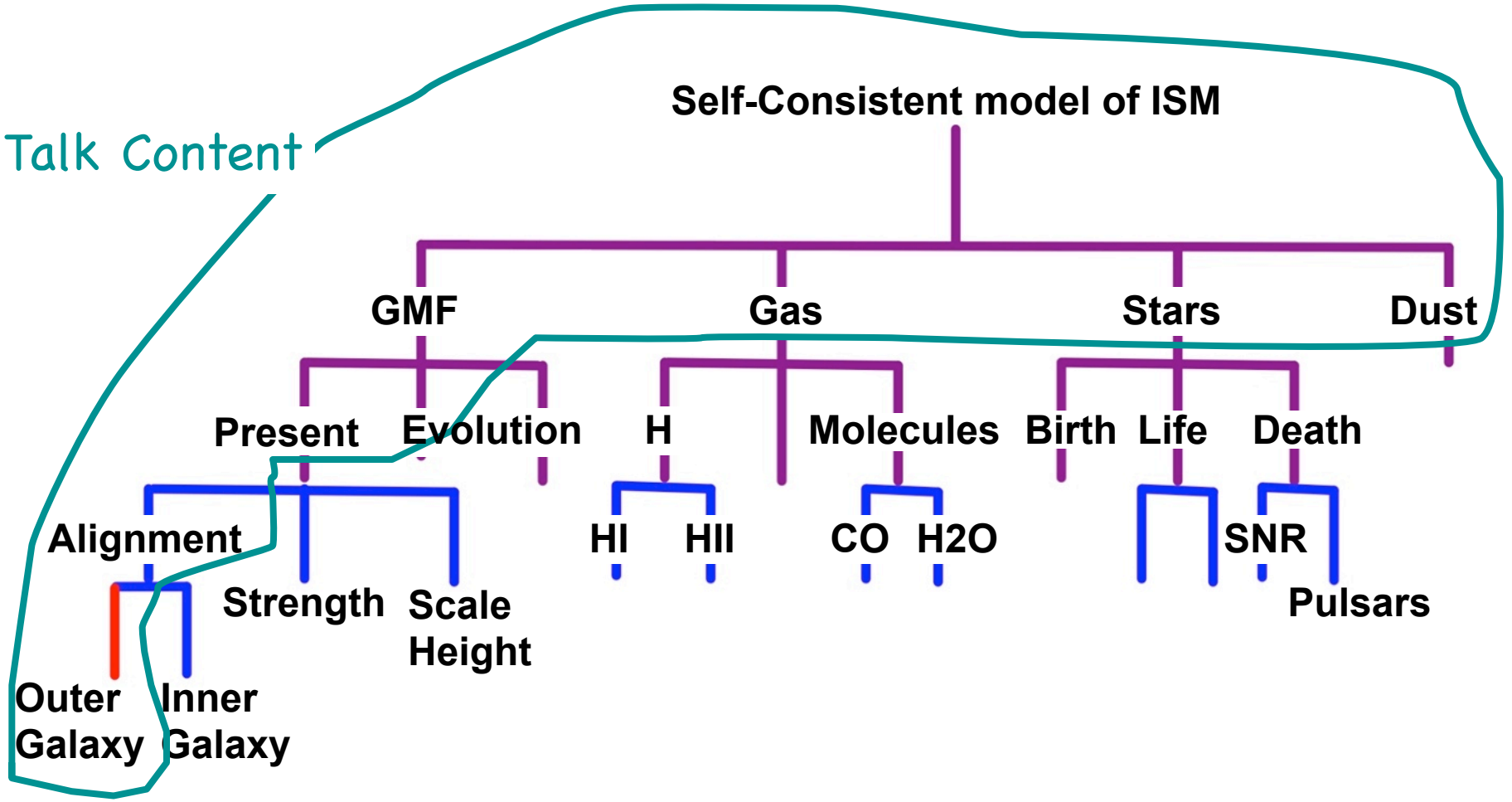


This Semester....

- Guest Lecture (next week) - Gwendolyn Blue, 'Science and Society'
- Poster Talks (5 minutes) - Beginning January 25
- Long Talks (20 minutes) - Beginning March 1 (organize February 1).
- This is a seminar course: Attendance is MANDATORY.
  More than 3 absences without proper documentation
  will result in a retake of the course.
- You must: Present: 1 poster talk
  1 long talk
  Evaluate: at least 4 long talks

Poster Advertisement

- 5 minute talk; 5 minute discussion.
- ACTS AS AN ADVERTISEMENT for your poster (make people want to come and talk to you about your poster)!
- GOAL: 5 slides.
- We will have 4 talks per day.
- These talks will be discussed with us as a group.
- (The 20 minute talks will require the participation of your supervisor.)

Poster Advertisement

This talk is like a verbal presentation of the 'abstract'

- **Slide 1:** Title, author list, & acknowledgements.
- **Slide 2:** What is the SUBJECT of the research?
- **Slide 3:** Why is this subject important?
- **Slide 4:** What is your research focus?
- **Slide 5:** What are your results?

Examples of abstracts (From Science 501)

Examples of abstract 'first 4 sentences':

1. **First sentence:** *What is the subject of this research?*

(a) Pine beetles are a class of insect that...
(b) Toxic spills from ship accidents happen at a rate of...
(c) Brain development is most significant between the ages of...
(d) Multiple sclerosis is a degenerative nerve disease that...
(e) Sulphur is one of many chemical pollutants destroying forests...

2. **Second sentence:** *Why is this subject 'important'?*

(a) Pine beetles are destroying our forests at a rate of ..
(b) The toxic spills remain in the environment for an average of...
(c) Brain development is adversely affected by several chemicals in food...
(d) MS affects women more often than men as a result of...
(e) Sulphur is often a bi-product of industrial activities such as...

Examples of abstracts (From Science 501)

3. **Third/Fourth Sentences:** *(Research Focus and Results)*

(a) We have studied the relationship between a particular fungus and found...
(b) Bio-methods have proved useful... We present our results....
(c) While studies of individual chemicals have been studied, none have looked at synergistic effects. Our study focuses on....
(d) Previous studies have indicated that.... Here, we present our results...
(e) Of particular interest to us is sulphur emissions from gas plants. We outline our findings on how sulphur impacts ecosystems...

Begin:
Poster Advertisement Example

The Magnetic Field of the Milky Way Galaxy

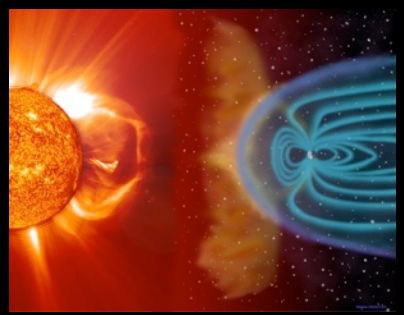
Jo-Anne Brown[1], Cameron Van Eck[1], Jeroen Stil[1],
Ann Mao[2], Bryan Gaensler[2], Russ Taylor[1]

1. University of Calgary, 2. Sydney University

NSERC CRSNG

NSF

The Role of Cosmic Magnetic Fields



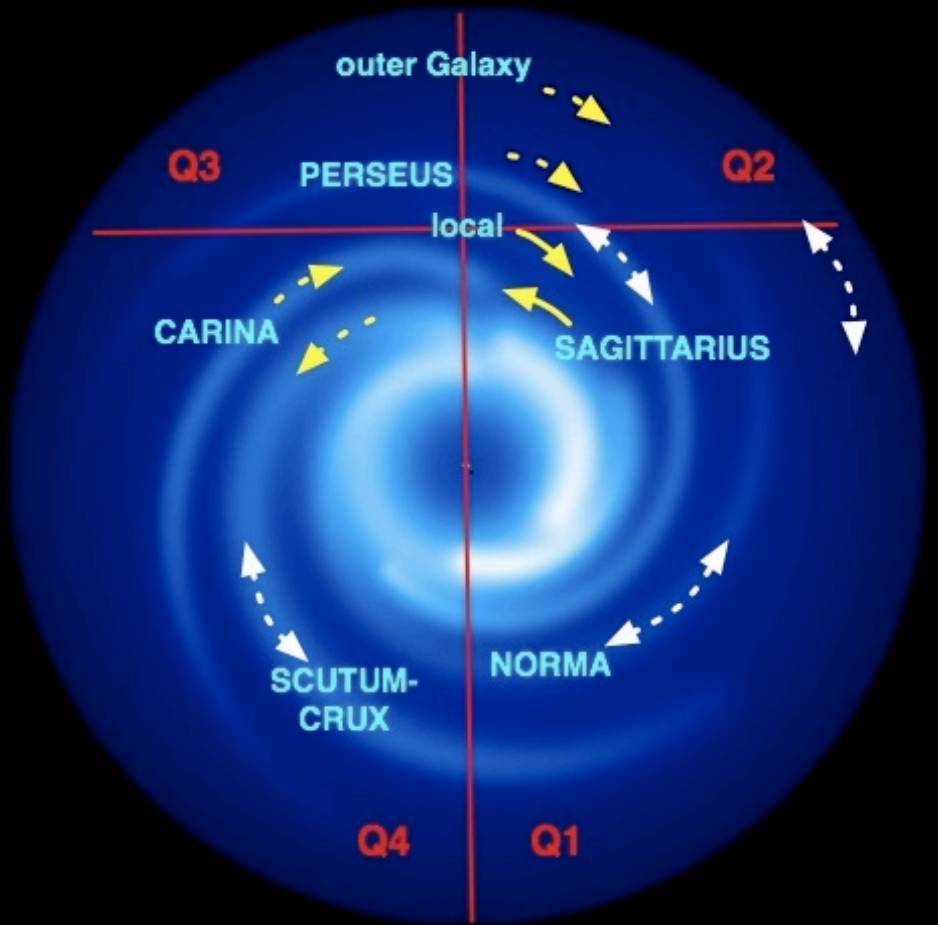
- Protection from Stellar winds (Generation of aurora!)

- Star formation and evolution

- Galaxy formation and evolution

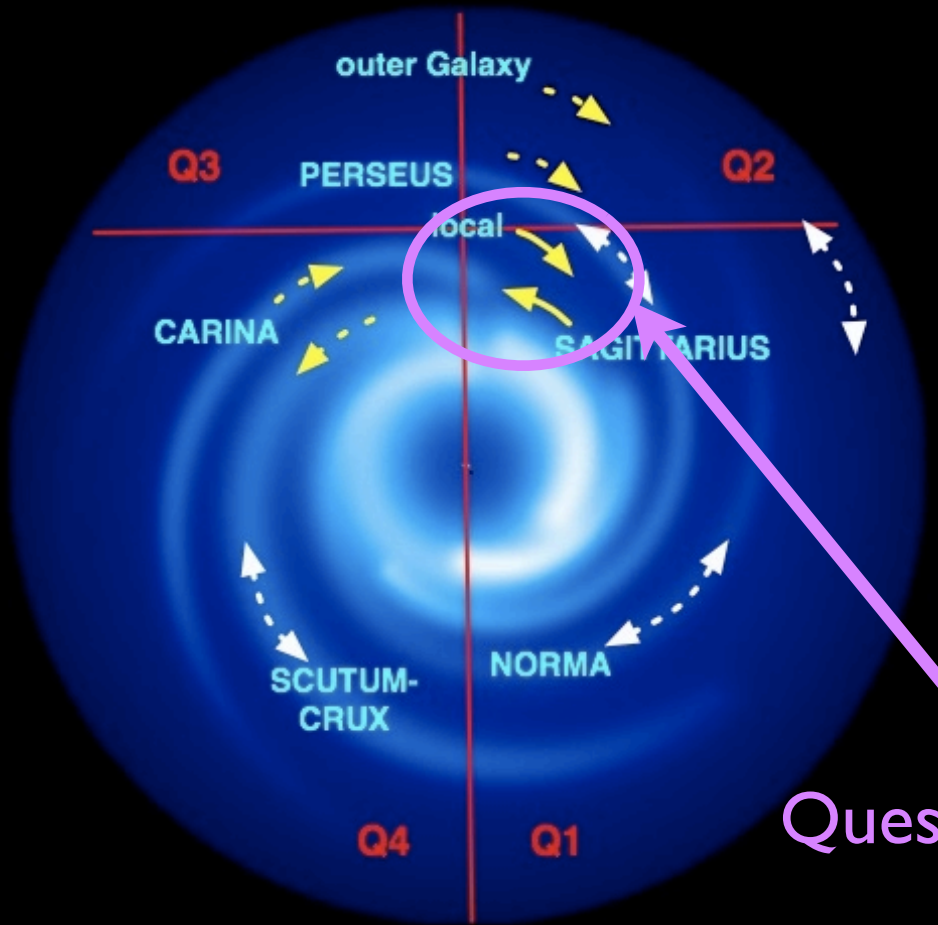
Image credits: Hubble Heritage Team

Basic Structure of the GMF



- Two components: large, small
- Concentrated in the disk
- local field is cw
- Sagittarius field is ccw
- Determining the field structure as it is now will allow us to understand how the field formed and how it is evolving!

Basic Structure of the GMF



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Questions: How many magnetic reversals are there?
How is the field aligned?

Magnetic Field Determinations

VLA (2010); Socorrow, New Mexico

Primary Result: The field is NOT aligned with the spiral arms in the outer Galaxy; 3 reversals in the inner Galaxy.

Poster 560D - Red Room

End:
Poster Advertisement Example

Poster Talks

- **January 25**
  - **Poster 1:Sadegh**
  - **Poster 2:Ambrish**
  - **Poster 3:Erick**
  - **Poster 4:Jalal**
- **February 1**
  - **Poster 5:Jayme**
  - **Poster 6:Pantita**
  - **Poster 7:Mandana**
  - ***The remainder of this class will be for the discussion of the 20 minute talks, which begin March 1.***
- **February 8**
  - **Poster 8:Jeff**
  - **Poster 9: Khabat**
  - **Poster 10: Mojtaba**
  - **Poster 11: Farokh**
- **February 22**
  - **Poster 12:Golnoosh**
  - **Poster 13: Ghislain**
  - **Poster 14: Neda**
  - **Poster 15: Adam**

20 minute talk

- Will begin March 1
- We will organize the talk order on February 1
- 20 minutes + 5 minutes questions
- All students will be evaluating you via bubble sheets and comments
- You will 'sign up' for talks and arrange for your supervisor to attend.
- The complete schedule will be posted.
- IF you cannot attend or present, it will be YOUR responsibility to trade for a different spot. If the circumstances are extenuating, we will work around it, but conference travel or exam schedule does not count.