

Psychology & Neuroscience Senior Thesis Research Advanced Seminar - Fall 2025

Wednesday 4:10-6:00 p.m.

200B Schermerhorn when there is no colloquium

614 Schermerhorn for Colloquia

Professor Alfredo Spagna, Ph.D.

Office hours: [link](#)

Course Description

Students with strong interests in psychological/neuroscientific research who applied for admission to the Psychology Department's Psych/Neuro Senior Thesis Advanced Research in the fall of their junior year or the equivalent, will be able to participate in the three consecutive semesters (Spring - Fall - Spring) that are required in the program.

Research Goals

Learning big question in psych and neuroscience

By attending Department Colloquia

Reading and interacting with the speakers

Hearing the questions that people ask at the colloquium

Understanding Classmates work more

This class frames you on how to translate it with a broader audience

Learning scientific literature

By reading it carefully (and sometimes more than once)

Engaging with literature outside of your research area (eg, animal research)

Accepting that some areas won't be covered (eg, no cellular molecular research)

Forming hypotheses

All of the hypothesis should have been written down by now.

Some of you are working off of PI's project. Some more independent: be mindful of this!.

A lot of adjustments even to the hypothesis happened during the semester

Engaging with the assumptions even before thinking about the hypothesis

Designing experiments

Some of you are slightly modifying existing paradigms, while others are building something totally new: be mindful of the difference

Conducting experiments

collecting data using sound and ethical methods

analyzing data and creating your own pipeline

Using statistical tools, Interpreting findings & fitting them into what is already known

Seminar Goals

- Learning to read scientific papers and understand talks
- Learning how to describe scientific studies
- Present one's experimental questions, plans and predictions.
- Construct and present work formally.
 - Introduce yourself and your lab
 - explain the scientific question or topic you are working on
 - How it relates to human psychology
 - Why should we care about this?
 - Write down your scientific questions in bold

Advising: Outside of class, I can advise on:

- Labs to join
- complexity of project/feasibility
- graduate school
- fellowships.

Material:

Find on Courseworks (Under > Files > Class Material) material about

- presenting work
- colloquium reading QALMRI,
- example QALMRI,
- senior thesis funding,
- example honors thesis contents

Assignments:

- 1) Based on the readings students will need to prepare a **bi-weekly integrative comment** (i.e., based on more than one of the readings). This thoughtful comment (**~2-4 sentences**) on the readings may be a conceptual or a methodological related issue.
 - You must post this comment on Courseworks by Monday evening before class.
 - Please type your comment into Courseworks under the "Discussions" tab on the left side of Canvas. You will see a separate thread for each speaker.
 - Notes if you're presenting in the group, you do not need to post these comments for that set of readings.
 - Note For the group presenting who are trying to access these posts, you will need to enter a 'fake' entry to access the contents. I recommend typing in the post "test."
- 2) **Group paper presentations:** we will divide into **small groups** (~5/group). Each group will be responsible for presentation of colloquium speaker papers.
 - i. Each week, the group will be responsible for leading class discussion based on the readings and the weekly integrative comments posted on courseworks.
 1. Keep the presentation short:
 - a. **10 MINUTES**
 - b. **Discussion 15 MINUTES**
 2. **No need to go over again all the details discussed in the article.** The expectation is that students have already read and understood the manuscript.
 - ii. Each team must coordinate their plans, including identification of the three most relevant weekly comments across all student weekly integrative comment submissions.
 - iii. The teams must **submit an outline** of the summary of their review and questions to each of the instructors by **e-mail by 7pm on Sunday before the class.**

3) In-class presentations of research plans

Each student will give a **5-minute formal presentation** focused on the **Introduction and Methods** sections of their senior thesis project. This is an opportunity to receive feedback from your peers and the instructor before finalizing your design and written proposal. Presentations will be timed and should be clear, concise, and well-organized.

What to Include in Your Presentation? Please prepare to cover the following elements:

- **Project Title**
 - A clear and descriptive title for your study.
- **Background & Rationale (Intro)**
 - Brief overview of the relevant literature (2–3 key findings or concepts).
 - What is the research gap or motivation for your study?
 - How does your project build on or challenge existing work?
- **Research Question & Hypotheses**
 - What specific question are you asking?
 - What do you expect to find, and why?
- **Study Design (Methods)**
 - Participant population (e.g., number, age, recruitment method).
 - Experimental tasks or measures (e.g., surveys, behavioral tasks, imaging).
 - Variables: what are your independent and dependent variables?
 - Procedure: a step-by-step outline of what participants will do.
 - Tools and materials needed (e.g., software, equipment).
- **Feasibility**
 - Timeline: when and how will you collect your data?
 - IRB status: is approval already obtained or in process?
- **Visuals**
 - Use slides (e.g., PowerPoint or Google Slides) to support your talk.
 - Keep slides clean and minimal—use bullet points, diagrams, or figures as needed.

Presentation Tips

- **Practice** your timing to stay within the 5-minute limit.
- Be **succinct**—prioritize clarity over detail.
- Speak confidently and **avoid reading** from your slides.
- Prepare to **answer questions** from peers and the instructor.

Grading Rubric: Intro/Methods Presentation (Total: 20 points)

Category	Points	Description
Clarity of Research Question & Hypothesis	4 pts	Is the research question clearly articulated? Are the hypotheses logical and well-grounded in the literature?
Background & Rationale	4 pts	Does the student provide relevant background and justify the importance of the study? Are citations/context appropriate and concise?
Methods Description	4 pts	Are participants, design, variables, and procedures clearly described? Is the study feasible and well thought out?
Structure & Organization	3 pts	Is the presentation well-organized and easy to follow within the time constraints? Are the slides well-designed and informative?
Delivery & Timing	3 pts	Does the student speak clearly, stay within time, and avoid reading directly from slides? Is the delivery confident and professional?
Engagement & Preparedness	2 pts	Does the student appear prepared and engaged? Can they answer basic questions or acknowledge next steps?

Scoring Guide

18–20 points: Excellent – clear, engaging, and well-prepared presentation with strong research logic and communication.

15–17 points: Good – solid presentation, with minor issues in clarity, timing, or structure.

12–14 points: Satisfactory – some key areas need improvement, but the foundation is there.

Below 12 points: Needs Improvement – unclear structure, missing key elements, or lack of preparedness.

4) Apply for Senior Thesis Funding: Grant application due

CC students : The next application deadline is **TBD (link)**

GS Students : **TBD** for fall-term or academic-year thesis projects (link)

Evaluation

- 1) 50% Research (from Lab PI)
- 2) 5% attendance
- 3) 5% active participation
- 4) 10% group paper presentations
- 5) 5% In-class presentations of research plans
- 6) 15% Biweekly integrative comments
- 7) 10% grant application

Things to plan for: **Final Paper** – Due to Research Advisors, who will read and grade before end of semester. My advice would be to get this to them **in early April.**

Course Schedule – Fall 2025

9/3: Course Introduction

- Assign Team A & B for senior practices
- Assign groups for group paper presentations
- read together the article for Anna Shusterman's colloquium (QALMRI)

9/10: colloquium (SCH 614)

Speaker: Anna Shusterman (Barnard College)

9/17: seminar (SCH 200B)

Group 1 presents and leads discussion for Natalie Brito's colloquium
Team A formal practice (Intro/Methods) (5 mins max each)

9/24: colloquium (SCH 614)

Speaker: Natalie Brito (Columbia University)

10/1: seminar (SCH 200B)

Group 2 presents and leads discussion for Sapna Cheryan's colloquium
Team B formal practice (Intro/Methods) (5 mins max each)

10/08: colloquium (SCH 614)

Speaker: Sapna Cheryan, University of Washington

10/15: seminar (SCH 200B)

Group 3 presents and leads discussion for Christopher Baker's colloquium
Team A formal practice #2 (Intro/Methods) (5 mins max each)

10/22: colloquium (SCH 614)

Speaker: Christopher Baker, NIH

10/29: seminar (SCH 200B)

Group 4 presents and leads discussion for Jeff Simpson's colloquium
Team B formal practice #2 (Intro/Methods) (5 mins max each)

11/5: colloquium (SCH 614)

Speaker: Jeff Simpson, University of Minnesota

11/12: seminar (SCH 200B)

Group 5 presents and leads discussion for Mahzarin Banaji colloquium
Final formal practice (everyone) (5 mins max each)

11/19: colloquium (SCH 614)

Speaker: Mahzarin Banaji, Harvard University

11/26: no class scheduled

12/ 3: colloquium (SCH 614)

Speaker: Tracy Bale, University of Colorado