

Meeting Time and Location: W 1:00-4:00 PM room UCL 173

Office hours: Open (afternoons are preferred)

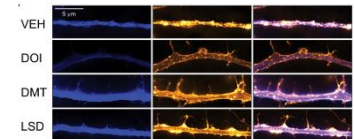
Course Description: BIOL 792: An advanced graduate seminar course on the original research literature describing and experimentally examining the neurocircuitry in the brain that controls stressful responses. The seminars given will include consideration of the orexin neuropeptide modulators.

Course Prerequisites: Graduate Status

2024 Seminars in Brain Stress Circuitry: Orexin Connections ↓

Brain Stress Circuitry: Orexin Connections

Spring 2024



[end](#)

Date	Speaker streaming video	Title of the 1 ^o Journal Paper	Authors	year, journal	volume: pages	food
Jan 17 UCL 173	Cliff	Scheduling Building a Good Scientific Story Full USD Syllabus for the Seminar course Brain Stress Circuitry: Orexin Connections	CH Summers	2024		
Jan 24 UCL 173	Cliff	How to chose a paper, What makes a good talk, Guide to Seminar Design SN²ACKS Seminar Success Guide Organization of your Talk	CH Summers	2024 Handouts	: :	
Feb 7 UCL 173	Megan John	Brain Stress Circuitry: Orexin original paper Background papers: Author et al., 2024 PNAS 118: 285–290 Background paper	authors	2024, <i>Nature</i>	589: 474-479	



		Authors 2024 Cell 182: 1574–1588 Background paper				
Feb 21 UCL 173	Morgan Rothschild	Brain Stress Circuitry: Orexin original paper Background papers: Authors 2019 Neuron 102: 668-683 Background paper Author 2019 Nature Neuroscience 22: 1357-1370 Background paper	Authors	2020 Nature Neuroscience	23: 61–74	
Mar 6 UCL 173	Brylie Hartwig	Brain Stress Circuitry: Orexin original paper Background papers: Author et al., 2024 PNAS 118: 285–290 Background paper Authors 2024 Cell 182: 1574–1588 Background paper	authors	2024, Nature	589: 474-479	
Mar 27 UCL 173	Shauna Casey	Brain Stress Circuitry: Orexin original paper Background papers: Author et al., 2024 PNAS 118: 285–290 Background paper Authors 2024 Cell 182: 1574–1588 Background paper	authors	2024, Nature	589: 474-479	
		Brain Stress Circuitry: Orexin Connections Take Home Messages				

Course Requirements: preparing and delivering a 3-hour seminar on Orexin connections within the brain neurocircuitry that regulates stressful responses. Additionally, student must:

1. Attend Seminars given by the Professor and the other students participating.
2. Be prepared to and discuss the relevant information in each seminar given.
3. Complete the readings, 3 original research papers, for each seminar

Each seminar must consider must consider and include:

Introduction

Delivery

Presentation *not read*

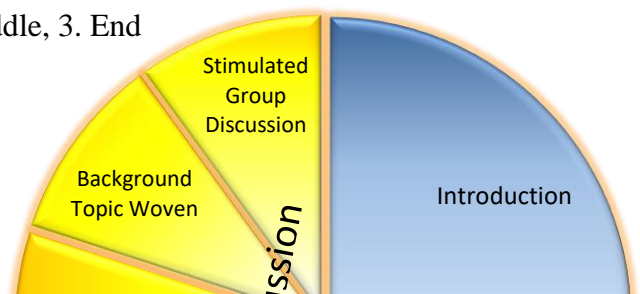
Slides have bullet points and not sentences

Background Story / Background Material enhances group understanding

Woven into larger story

A Story has 3 parts: 1. Beginning, 2. Middle, 3. End

The Beginning –



Introduce the Characters (ideas)
Tell what the problem is
Tell what is known so far
 Background papers
Explain why we care
 - *Why is it important?*
Tell what isn't known

Purpose of Research clearly explained

Methods

Delivery

 Clear Visuals

Advanced techniques explained

Middle of the Story

 Methods and Results

 Why the methods solve the problem

Results

Graphic results used and explained clearly

 Clear Visuals

 Must use at least 1 graph from each background paper in the story

 Usually before the graphs of the main paper

 Can be after it tells a better story

 Analysis of Statistical approach and data

More Middle

 Connect each Result with an idea from the Beginning

 Connect each Result with other Results

 Remember to connect the background graphs

 Tell the Story of the Results in a Logical Order

 Logically impels the narrative

Discussion

Take Home Messages clearly outlined



Analysis of the scientific value of each idea

Integration of ideas into a story

The End of the Story

Briefly List the Original Ideas

Are they still valid?

Explain Ideas/Results

In relation to the problem

In relation to other student's notion of the problem or solution

- *It is the Presenter's Job to: Drive the Discussion*

Discuss the next step

Is there a new problem (yes, there is always a new problem)

Background and Topic paper messages woven and discussed together

Stimulated Group Discussion

Set up

Naming your PowerPoint: FirstnameYearSeminarname.pptx

For example: Cliff24BSC Orexin Connections.pptx

Use *Just 24*, ~~not 2024~~

Save as .pptx or .ppt

3 Papers

Send me the pdfs early – start looking the first week – send by the 2nd if possible

Topic Paper – published in the last 2 years

Not a review paper

Should have *lots* of **graphs --- this will make the story easier to tell**

2 Background papers

To help tell the Scientific Story

Must connect scientifically and **logically** to the TOPIC paper

Need to use at least 1 graph of results from each background paper

Use **all** the graphs if they help tell the story

Don't use graphs if they are superfluous to the story

Can be older - **AVOID ARTICLES ON HUMAN RESEARCH**

Not a review or a **previously used paper (from this or previous semesters)**

Course Goals: To produce integrative knowledge of the neuroanatomy, integrated neurocircuitry, neurochemistry specifically associated with orexin molecules, cell signaling, molecular biology, and behavioral consequences of brain regions controlling stress regulation.

Student Learning Outcomes: The students learn integrative neuroscience of biological circuitry.

1. To integrate information from seminars on sensory neurons, sensory receptor organs, integrative neurons, motor neurons, neuromuscular junctions, synapses, neurotransmitters, transmitter receptor systems: specifically orexin, 2nd messengers, appropriate DNA –



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promoters, transcription factors, and genes, and molecular mechanisms that promote changes in behavior and learning

2. To use that integrated information to produce a Seminar with the appropriate visual representation of the information, including molecular pathways
3. To use that information to discuss specific matters of neural function, molecular function, behavior, and learning

Evaluation Procedures:

Grading Rubric 2024 for

SN²ACKS: SYSTEMS AND NEUROSCIENCE NETWORKS ADVANCED COMMUNICATION OF KNOWLEDGE SEMINARS

Brain Stress Circuitry: Orexin Connections

Papers chosen and delivered on time 5 points

Topic paper at least 3 weeks ahead of your talk date

Background papers at least 2 weeks ahead

Please don't use papers from previous seminars

Presentation prepared and delivered on time 5 points

Use PowerPoint

Completed draft – 1 week ahead of your talk date

Fine tuning is ok – Final version 2 days ahead

Key Elements of the Talk

1. Delivery – not read 5 points

- Bullet points 5 points

- NO sentences 5 points

o Slides are easy to read

2. Beginning – Introduction

- Introduce the overall Theme with a Title Slide 5 points

o This *OVERALL* theme integrates the themes of all 3 papers 5 points

- NO Article Title slides 5 points

- Present and INTEGRATED story, not 3 5 points

- Presentation of a clear Character/Ideas Page – 3 main characters 5 points

o In the context of what we have learned so far this semester

- What is Known so far clearly presented 5 points

- What ISN'T known - clearly presented: **Make a slide with this title** 5 points

- What the problem is - clearly presented: **Make slide with this title** 5 points

- Why Do We Care, is clearly presented: **Make slide with this title** 5 points

- Presentation of a clear Hypothesis – *Hypothesis Page for overall story* 5 points

3. Middle

- 1 graph / PowerPoint Page 5 points



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- All graphs presented were necessary for the story 5 points
- No necessary graphs for the story were missing 5 points

4. End

- 3 Main conclusions were presented – tied to theme & characters 5 points
- 3 Main conclusions were discussed 5 points
 - o Leader stimulates discussion
 - o In the context of what we’ve learned this semester

100 points:

- 90% or greater = A
- 80 – 89% = B
- 70 – 79% = C
- 60 – 69% = D
- Below 60% = F

Academic Integrity

The College of Arts and Sciences considers plagiarism, cheating, and other forms of academic dishonesty inimical to the objectives of higher education. The College supports the imposition of penalties on students who engage in academic dishonesty, as defined in the “Conduct” section of the University of South Dakota Student Handbook.

No credit can be given for a dishonest assignment. A student found to have engaged in any form of academic dishonesty may, at the discretion of the instructor, be:

- a. Given a zero for that assignment.
- b. Allowed to rewrite and resubmit the assignment for credit.
- c. Assigned a reduced grade for the course.
- d. Dropped from the course.
- e. Failed in the course.

Freedom in Learning

Under Board of Regents and University policy, student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college or school that offers the class to initiate a review of the evaluation.

Disability Accommodation

Any student who feels s/he may need academic accommodations or access accommodations based on the impact of a documented disability should contact and register with Disability Services during the first week of class or as soon as possible after the diagnosis of a disability. Disability Services is the official office to assist students through the process of disability verification and coordination of



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appropriate and reasonable accommodations. Students currently registered with Disability Services must obtain a new accommodation memo each semester.

Please note: if your home institution is not the University of South Dakota but one of the other South Dakota Board of Regents institutions (e.g., SDSU, SDSMT, BHSU, NSU, DSU), you should work with the disability services coordinator at your home institution.

Disability Services, The Commons Room 116

(605) 658-3745

Web Site: www.usd.edu/ds

Email: disabilityservices@usd.edu

Accessibility Statement

The University of South Dakota strives to ensure that physical resources, as well as information and communication technologies, are accessible to users in order to provide equal access to all. If you encounter any accessibility issues, you are encouraged to immediately contact the instructor of the course and the Office of Disability Services, which will work to resolve the issue as quickly as possible.

Concern/Complaint Resolution Process

To resolve any concerns, complaints, or questions regarding a course experience, the student should initially attempt addressing issues of concern directly to the instructor or the appropriate decision maker as defined by the chart appended to the university's [academic appeal form](#). Together the student and the instructor should establish a timetable for resolving the issues of concern. If a student feels the conflict has not been resolved, the student should communicate this concern to the chair of the department offering the course. If questions or concerns remain, or if the instructor is the department chair, the student may contact the dean's office for the college or school in which the course is offered.

Contact information for questions or concerns:

Department Chair: Dr. Jacob Kerby Department Chair

Dean or Associate Dean: Dr. Jessica J. Messersmith jessica.messersmith@usd.edu

Grade Appeal

Under Board of Regents ([Student Appeals for Academic Affairs Policy 2:9](#)) and University policy ([Student Academic Appeals](#)), students have the right to appeal such matters as course grades and dismissal from a program. Students wishing to appeal an academic decision must use the appropriate [appeal form](#). The form should be used only if informal discussion with the academic decision-maker does not produce a satisfactory resolution and the student wishes to pursue the matter further. Appeals must be initiated by the student through discussion with the individual responsible for the decision (i.e., the academic decision-maker/instructor) to question the decision and explain the basis for doing so. The student must have this discussion within 30 calendar days of being notified of the decision that is being appealed. If notification occurs within 15 calendar days before the end of a term, the discussion must occur at the latest within 15 calendar days of the start of the next term. If a student wishes to pursue the appeal following the discussion with the academic decision-maker, they should complete Step 2 of the [appeal form](#) and submit within 5 working days of the discussion a signed copy to the mediator designated on the form.



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Diversity and Inclusive Excellence

The University of South Dakota strives to foster a globally inclusive learning environment where opportunities are provided for diversity to be recognized and respected. To learn more about USD's diversity and inclusiveness initiatives, please visit the website for the Office of Diversity.

COVID-19 Statement

Mitigating the spread of COVID-19 is everyone's responsibility. In order to ensure the health and safety of each individual student and our overall campus community, we ask you to monitor your health daily and abide by the following protocols: If you are exposed to COVID-19 or develop COVID-19 symptoms, you are expected to immediately communicate this to covid19@usd.edu. You may also report to the Dean of Students at deanofstudents@usd.edu. In either case, the Dean of Students office will communicate with all instructors and provide appropriate University communication to impacted parties while also preserving student privacy about any medical condition. If you miss class due to medical reasons, please also inform your instructor in a timely fashion. Students who have been asked to quarantine cannot attend classes in person and should ask instructors if there is an option to participate remotely. Instructors will work with students to determine whether remote participation, an incomplete grade, or withdrawal is most appropriate. Thank you for following these important measures to keep our community healthy and safe. For the latest guidance, please check USD's [COVID-19 web site](#).

Statement on Recording of Lectures by Students

Lectures, presentations, and other course materials are protected intellectual property under South Dakota Board of Regents Policy. Accordingly, recording and disseminating lectures, presentations or course materials is strictly prohibited without the express permission of the faculty member or as the result of an approved disability accommodation through Disability Services. Violation of this prohibition may result in the student being subject to Student Conduct proceedings under SDBOR Policy 3:4.