Neuroscience Orientation

Fall 2022
Neuroscience Orientation 2022

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Neuroscience Executive Committee

Program Directors
- Director – Prof. David McKemy
  - Professor of Biological Sciences, Neurobiology
  - mckemy@usc.edu
- Deputy Director – Prof. John Monterosso
  - Associate Professor of Psychology
  - johnrmon@usc.edu

Faculty Representatives
- Prof. Andrew Hires – Assistant Professor – Neurobiology
- Prof. Jonas Kaplan – Assistant Professor - Psychology
NEUR and CPNS Program

- The Neuroscience and Computational Neuroscience Program is not directly affiliated with a specific Department
  - There is no “Neuroscience Department”.
- Interdisciplinary program jointly administered through the Neurobiology Section of BISC and Psychology.
- Faculty located primarily in the Hedco Neurosciences Building (HNB) and Seeley G. Mudd (SGM) Building.
- Go to https://dornsife.usc.edu/usc-neuroscience/
Three ways to “do” Neuroscience at USC

Bachelor of Science in Neuroscience
  o Broad background in life sciences.
  o Very solid preparation for advanced training in medical/health careers and graduate school.

Bachelor of Arts in Neuroscience
  o More flexibility.
  o You can go deeper into a particular sub-discipline
  o Sample a wider array of advanced courses.

Bachelor of Science in Computational Neuroscience
  o Simulation modeling, artificial intelligence/robotics, neuroinformatics (lots of coding!)
  o Solid preparation for advanced training/careers in engineering, “big data” fields

https://dornsife.usc.edu/usc-neuroscience/undergraduate_curriculum/
1st Year Advising

- **Courtney Bushman**
  - Assistant Director
  - Dornsife First-Year Advising
  - USC Dornsife College of Letters, Arts and Sciences
  - courtnbb@usc.edu
  - Phone: (213) 740-2534
  - Location: GFS 320
Academic Advising

To make an advising appointment, visit:

(CPNS Last Names: A-J) (NEUR Last Names: A-L)

(CPNS Last Names: K-Z) (NEUR Last Names: M-Z)

Location: AHF 107
• 30 minute, 1-on-1 advising appointments
• Course recommendations
• Course Plans
• Lift Advising Holds
• Degree Audits
• Connect to Campus Resources
• “At Risk” Grade Outreach
• Academic Policy Navigation
Career Pathways

Programs

In fulfilling our mission to align students' academic interests with individual career and professional pathways, we work in collaboration with faculty, Alumni, and campus partners, to offer four key programs that serve the USC Dornsife student body:

- Gateway Internship Program
- Work-It Series
- Major 2 Career
- Sophomore Seminars

More info at:

https://dornsife.usc.edu/careerpathways
Neuroscience is a huge, incredibly active, field of research.

Over 100 labs on campus are doing neuroscience research of one kind or another.

https://ngp.usc.edu/faculty-by-research-area/
Why get involved in research as an undergraduate?

Be a part of something:
- Labs are small communities of students, technicians, and faculty members.

Learning experience:
- Develop “wet lab” and/or computational skills.
- Learn how to think like a scientist.
- Determine whether a career in research is for you.

Career development:
- Letters of recommendation.
- Honors.
- Publications.
How do I get involved in research as an undergraduate?

Find a lab that is doing work you’re interested in:
- Talk to students who are already doing research.
- Visit faculty/lab research pages.
- Go to the Neuroscience Graduate Program Symposium
- BISC Student Research Exchange site which has listings of Faculty job posts.
  - [https://uscdornsife.usc.edu/secure/bisc_research_ex/search.cfm](https://uscdornsife.usc.edu/secure/bisc_research_ex/search.cfm)
- Synapse introduction document.

Get involved:
- Email the PI (Principle Investigator) of the lab you’re interested in.
- Try to provide a sense of why you’re interested in their lab.
- Treat your meeting with the PI like a job interview!

Get support ($$$):
- Ng Family, Neuroscience, Gateway/McNair, Provost’s Fellowship, SURF/SOAR, WISE
How do I get involved in research as an undergraduate?

- **BRIDGE UNDERGRADUATE MENTORSHIP PROGRAM (BUMP)**
  - Designed connect undergraduate students with research interests in fields connected to human health with an experienced researcher (possibly a graduate student, postdoc, staff or faculty member) who is willing to serve as a professional mentor.
  - [https://dornsife.usc.edu/bridge-institute/bump/](https://dornsife.usc.edu/bridge-institute/bump/)

- **BRIDGE UNDERGRADUATE SCIENCE PROGRAM (BUGS)**
  - Undergraduate students in the program pair with a USC faculty member and often collaborate with graduate student or postdoctoral mentors to perform hands-on research in USC research labs.
  - [https://dornsife.usc.edu/bridge-institute/bugs/](https://dornsife.usc.edu/bridge-institute/bugs/)

- **NEUR 490: Directed Research**
  - Juniors/Seniors standing interested in earning credit for research
    - GPA > 3.0.
  - Students may choose to earn 2 or 4 units of credit, the units awarded being dependent on hours per week spent in the lab
    - 4 hours/week in the lab for each unit of credit.
  - Directed Research can be in any USC Department if the project is Neuroscience-related.
    - May require approval.

[https://dornsife.usc.edu/usc-neuroscience/undergraduate-research/](https://dornsife.usc.edu/usc-neuroscience/undergraduate-research/)
Neuroscience Honors Program

Offers students exceptional opportunities to participate in scientific research, culminating in the experience of writing an Honors thesis summarizing their completed research.

- Learn to prepare written and oral presentations.
- Exposure to a broad range of neuroscience research
  - designation on transcripts of *Bachelor of Arts/Science in Neuroscience with Honors*

**Requirements:**

- NEUR 490 Research (4 total units)
- NEUR 494 Honors Thesis
- NEUR 493 Honors Seminar (1 unit x 2 classes)
  - Students give short oral presentations based on research talks given by visiting neuroscientists from around the world.
  - Other students and faculty ask questions, and then give constructive feedback on the presentation.
  - Enhance your skills of critical analysis and communication.
- Submit thesis
- Graduate with GPA $\geq 3.5$

[https://dornsife.usc.edu/usc-neuroscience/honors_program/](https://dornsife.usc.edu/usc-neuroscience/honors_program/)
Neuroscience Awards and Scholarships

- **Brian Phillip Rakusin Neuroscience Scholarship Award**
  - Established in memory of Brian Phillip Rakusin, USC’s first Neuroscience Major. Recipients of this award must have sophomore or junior standing and remain on campus for a year following receipt of the award.

- **Neuroscience Outstanding Student of the Year Award**
  - Candidates for this award will typically be graduating seniors (although students at all levels are eligible) and must demonstrate outstanding achievements and aspirations in the field of Neuroscience.

**Dornsife Neuroscience Fellowships**

- **Dornsife Neuroscience Experiential Learning Fellowship**
  - Each undergraduate student funded by the program will receive a stipend in the amount of $1000 to support research specifically in the Dornsife College.

- **Ng Family Fellowships in Computational Neurosciences**
  - Each undergraduate student funded by the program will receive a stipend in the amount of $2000 to support research, specifically in the Dornsife College.

https://dornsife.usc.edu/usc-neuroscience/events-and-awards/
Undergraduate Student Organizations

Synapse

InterAxon

Nu Rho Psi

NeuroGenesis
For more info you can contact us at nurhopsi@usc.edu
NeuroGenesis

Neuroscience Book Club and Speaker Series
Questions?
Welcome to USC Neuroscience!