

**BILD 96: Biology Honors Seminar**  
**Section B00: Wed. 9-10:50am in PCYNH 106**

**Course description:** Weekly seminar providing BioScholars and PATHS Scholars the opportunity to learn about the research landscape at UCSD, how they might participate as undergraduates, what benefits this could bring, and how this relates to post-graduation goals

**Instructor:** Prof. Laurie G. Smith (she/her; lgsmith@ucsd.edu)

**Office hours** online by appointment the week Nov. 9-13. Book at <https://lgsmithappointment-with-laurie-smith.appointlet.com/s/office-hours-appointment>. At your appointment time, Zoom me at <https://ucsd.zoom.us/j/4148552767>. Any other week, let me know in class or via email that you'd like to chat and we'll set up a time for an online or in-person meeting.

**Learning and course goals:**

- Students will learn about several examples of ongoing research projects at UCSD or other places where UCSD scientists are now working
- Students will learn about the roles of various lab personnel at different stages of their science training
- Students will learn about the personal stories of varied participants in research laboratories
- Students will learn about career avenues they could pursue after graduation that build on life science research lab training
- Students will get to know fellow freshmen Biology majors through in-person (and online) interaction

**Grading is P/NP only. The following are required for a grade of P:**

- Attendance at 8/9 class meetings at the scheduled time of the class you are enrolled in unless an alternative is arranged with the instructor no later than 24 hrs after the missed class (and preferably before). This should be only be requested for COVID transmission mitigation reasons, or other reasons beyond your control such as a health problem or personal/family emergency. The alternative will involve watching the podcast of the missed class, answering some questions about it, and completing the in-class assignment for that day independently.
- Submission of all weekly pre-class assignments before your scheduled class begins. These will require answering ~3 reflection-type questions based on the pre-class reading/watching/listening assignment. Submissions must be complete, reflect familiarity with the assigned material, and be submitted on time, even if not attending class that week, but will not be scored or graded (there are generally no correct/incorrect answers)
- Active participation in the in-class assignments as part of a group, including occasional contribution to report-backs at the end of class when your group is called on and you are the spokesperson
- Attendance at one semi-private (two people at a time), 20 min. "office hours" appointment the week of Nov. 9-13. Make appts at <https://lgsmithappointment-with-laurie-smith.appointlet.com/s/office-hours-appointment> and Zoom me at <https://ucsd.zoom.us/j/4148552767> at your appointment time
- Submission of the text for an email requesting a research opportunity to a UCSD faculty member of your choice (due Fri. Dec. 4<sup>th</sup> by 11:59PM on Canvas)

## Agenda

All sessions will be held in person unless noted as remote, currently just Nov 25; remote sessions will take place at the usual class time and your attendance is expect at that time.

### Wed. Oct. 7

**Pre-class assignment:** review BioScholars website at <http://bioscholars.ucsd.edu/>; review announcement and video posted on Canvas (in Media Gallery for this class) about entering/exiting the classroom, masking and social distancing requirements

**Speakers:** Dr. Kathy French (faculty advisor, BioScholars), Hayden Guss and Isaac Chang (President and Vice-President of 2020-21 BioScholars, respectively), and Dr. Laurie Smith

**Topics:** Introduction to BioScholars, each other, and structure of academic research laboratories

**In-class group assignment:** explore lab websites of UCSD faculty whose research is represented in this class

### Wed. Oct. 14

**Pre-class assignment:** Read Introduction section of Doblaz-Ibáñez et al. (2019) article posted on Canvas (in Readings Module) about maize resistance to *P. stewartii* infection

**Speaker:** Dr. Laurie Smith (Professor, Section of Cell and Developmental Biology, Division of Biological Sciences)

**Topic:** Plant-pathogen interaction research with undergraduate involvement; getting started in research as an undergraduate at UCSD

**In-class group assignment:** explore lab websites of other UCSD Biological Sciences faculty based on your interests

### Wed. Oct. 21

**Pre-class assignment:** Read <https://www.nature.com/articles/d41586-019-02316-x> and <https://www.nejm.org/doi/full/10.1056/NEJMp1710608>, two short non-technical articles about the worldwide emergence of HIV drug resistance.

**Speaker:** Dr. Sergio Ita (Research Scientist, ProSci, Inc.; was NIH IRACDA Postdoctoral Fellow and UC Chancellor's Postdoctoral Fellow from 2016-2020 at the Center for AIDS Research in the Division of Infectious Disease & Global Public Health, Dept. of Medicine, UCSD School of Medicine)

**Topic:** Postdoctoral research on HIV drug resistance

**In-class group assignment:** explore websites of School of Medicine faculty and/or non-UCSD institutes nearby such as Salk, TSRI, Sanford Burnham Prebys Inst., J. Craig Venter Inst.

### Wed. Oct. 28

**Pre-class assignment:** Read Abstract and Introduction sections of P. Sidhwani et al. 2020 article about heart morphogenesis, posted on Canvas (in Readings Module)

**Speaker:** Rhea-Comfort Addo (Ph.D. student in lab of Prof. Debbie Yelon, Section of Cell and Developmental Biology, Division of Biological Sciences at UCSD)

**Topic:** Graduate research on zebrafish heart development, and PhD student life

**In-class group assignment (groups of 2 today):** (1) With your partner, book an office hour appt with the instructor at <https://lgsmithappointment-with-laurie-smith.appointlet.com/s/office-hours-appointment> for the week of Nov. 9-13. (2) Explore the wide and diverse world of academic researchers by exploring other sites: e.g. Rad Scientist podcast (just San Diego scientists here -

<https://www.kpbs.org/podcasts/rad-scientist/> ), Scientist Spotlight Initiative (<https://scientistspotlights.org>)

#### **Wed. Nov. 4**

**Pre-class assignment:** Read two items posted on Canvas website (Readings Module): (1) Genetics textbook excerpt on cancer; (2) Introduction and Discussion sections of article by Carter et al. (2017)

**Speaker:** Meghana Pagadala (MD/PhD student in the labs of Hannah Carter and Jill Mesirob in the Division of Medical Genetics, UCSD School of Medicine)

**Topic:** Graduate student research on cancer genomics and the MD/PhD track

**In-class group assignment:** Research summer undergraduate research scholarships, internship, and training programs

#### **Wed. Nov. 11**

Veterans Day (no class) but this is the week of private office hrs! See grading section on first page

#### **Wed. Nov. 18**

**Pre-class assignment:** Watch this TED talk by John Newsam on entrepreneurship and mentorship:

<https://youtu.be/WaAHVEzELRg>

**Speaker:** Rama Pranadinata (Associate Scientist, 858 Therapeutics and UCSD 2015 Bio graduate – see <https://www.linkedin.com/in/ramapranadinata/>).

**Topic:** Comparison of industry vs. academic research environments, through the lens of a bachelor's level scientist

**In-class group assignment:** Customize your Zoom profile in prep for next week's remote class; search Indeed.com for biotech positions requiring bachelor's degrees to find out what positions are available and what experience is required for a competitive applicant

#### **Wed. Nov. 25 (remote – access info TBD)**

**Pre-class assignment:** Read A. Bennett et al. 2014 article on careers, training, and future job prospects in clinical laboratory science posted on Canvas site (Readings Module)

**Speaker:** Dr. Ana Dowey (UCSD Clinical Laboratory Scientist Education & Program Coordinator)

**Topic:** Training and careers in clinical laboratory science

**In-class group assignment (will occur via online collaboration):** research openings for Clinical Lab Scientists at Indeed.com, also admission and program requirements of the two CLS programs in San Diego (UCSD Extension and Scripps Health)

#### **Wed. Dec. 2**

**Pre-class assignment:** Watch video interview of Shauna Yuan embedded in her lab webpage here:

<https://medschool.ucsd.edu/som/neurosciences/research/labs/shauna-yuan/Pages/default.aspx>

(click on her photo to start the video)

**Speaker:** Kelsey Baron (first year MD/PhD student who worked while a UCSD undergraduate in the lab of Dr. Shauna Yuan, Dept. of Neurosciences at UCSD School of Medicine)

**Topic:** Undergraduate research on protein folding in neurodegenerative disease

**In-class group assignment:** Explore resources for finding academic year undergraduate research and lab assistant opportunities such as REAL portal, FMP, Handshake, AEP and AIP websites

**Wed. Dec. 9**

**Pre-class assignment:** Read Justin Lee's masters thesis posted on the Canvas site (Readings Module)

**Speaker:** Justin Lee (newly graduated BS/MS student)

**Topic:** Masters student research on traumatic brain injury research and the BS/MS program in Biological Sciences

**In-class group assignment:** research the BS/MS program at <https://biology.ucsd.edu/education/contiguous-bsms/index.html>

## Student Resources

**general link** <https://vcsa.ucsd.edu/student-success/virtual-resources.html>

UCSD is a big place, but provides lots of resources for students. There is never a need to stay lost or isolated! This is a general list, for use throughout your years as a UCSD student, including some pointers tailored to the current pandemic environment, and to Biology majors. If there is something you need or want that you're not finding below, let me know and we can try to find it together!

### Technology

- Students can request a loaner laptop: <https://eforms.ucsd.edu/view.php?id=490887>
- Some computer labs are open: <https://lablookup.ucsd.edu/>
- Guidance on technology for students, including Zoom and Canvas, trouble-shooting and resources for internet access: <https://digitallearning.ucsd.edu/learners/learning-remotely/tools.html>

### Learning Support at the Teaching and Learning Commons

- Resources supporting remote learning: <https://digitallearning.ucsd.edu/learners/learning-remotely/strategies.html#Stay-engaged>
- Academic support in specific courses:
  - Content tutoring for specific courses including BIBC 102, BILD 1 and 3, BIMM 100: <https://aah.ucsd.edu/content-tutoring/online-tutoring.html>
  - Supplemental Instruction and Study Groups for specific courses, including BILD 1, BILD 2, and BIMM 100: <https://aah.ucsd.edu/supplemental-instruction-study-group/index.html>
- Writing support: <https://writinghub.ucsd.edu/for-undergrads/index.html>

### Student Health

- Student Health Services: <https://wellness.ucsd.edu/studenthealth/Pages/default.aspx>
- Student counseling and mental health resources: <https://wellness.ucsd.edu/CAPS/Pages/default.aspx>

### Financial Guidance

- Financial guidance and questions about their financial aid: <https://fas.ucsd.edu/>
- Email questions to [finaid@ucsd.edu](mailto:finaid@ucsd.edu).
- Virtual Counseling for students Monday through Friday 9AM TO 2PM, and Tuesday and Thursday 4:30PM to 6:30PM via Zoom at UCSD.ZOOM.US/MY/FASZOOM1.
- Emergency loans: <https://basicneeds.ucsd.edu/financial-wellness/index.html>

## Resources to Remedy Housing and/or Food Insecurity

- Assistance with meeting basic needs, such as food, hygiene products, or housing: <https://basicneeds.ucsd.edu/>
- Application forms for CalFresh and Basic Needs Assistance: <https://basicneeds.ucsd.edu/forms/index.html>

## Other Resources, Including Community Centers

- Office for the Prevention of Harassment & Discrimination (OPHD): provides assistance to students with concerns and reporting about bias, harassment, and discrimination. Contact them at (858) 534-8298, [ophd@ucsd.edu](mailto:ophd@ucsd.edu), or <http://ophd.ucsd.edu>. Confidential assistance is also available at the Sexual Assault Resource Center at (858) 534-5793, [sarc@ucsd.edu](mailto:sarc@ucsd.edu), or <http://care.ucsd.edu>.
- Office for Students with Disabilities (OSD) works with students who have documented disabilities to provide reasonable accommodations. See <https://disabilities.ucsd.edu/about/index.html>; call 858.534.4382 and/or email [osd@ucsd.edu](mailto:osd@ucsd.edu). Students in need of disability accommodations for a UCSD course must provide their instructor with a current Authorization for Accommodation (AFA) letter issued by OSD.
- OASIS: Office of Academic Support and Instructional Services also offers tutoring, writing and mentoring – see <https://oasis.ucsd.edu/>
- Black Resource Center: a campus community center that serves everyone at UC San Diego while emphasizing the Black experience. Promotes scholarship, fosters leadership, and cultivates community through the committed, collaborative effort and support of faculty, staff, and the broader UC San Diego community. <http://brc.ucsd.edu/>
- Cross-Cultural Center: strives for meaningful dialogues and context across all cultures, particularly those of underrepresented or underprivileged backgrounds. Offers supportive and educational services through art, social and educational programs, workshops, and outreach. Welcomes creative venues for enhancing social consciousness and equity. <http://ccc.ucsd.edu/>
- LGBT Resource Center: provides a visible presence on campus and enhances a sense of connection and community among LGBT faculty, staff, students, alumni and the UC San Diego Community. <http://lgbt.ucsd.edu/>. Assistance with name changes available here.
- Raza Resource Centro: a lively space where students study, meet, write, get tutoring, and most importantly are in community. It is a space where Latina/Chicano organizations hold meetings, events and where culture, arte, and academics interconnect. <http://raza.ucsd.edu/>
- Student Veterans Resource Center (SVRC): supports military-affiliated students in making the transition to campus life. The Center also provides opportunities for peer-to-peer support, mentoring and social networking. See <https://students.ucsd.edu/sponsor/veterans/>
- Women's Center: serves as a resource for the entire campus community while placing the experiences of diverse women at the center through the resources provided, the programming and learning opportunities facilitated, and the dynamic community space created. <https://women.ucsd.edu/>