



DEB/Biotech Program Science Communication Internship for DEB282

Objectives

- Create fact-based, engaging digital content on research topics in biotechnology for general audiences.
- Develop transferrable professional skills in science communication (topical research, interviewing, writing, illustrating, editing, producing video lectures) and project management.

Internship Format

- Internship credit will be awarded for a minimum of 400 hours effort over the course of ~3-12 months (flexible timeline).
- DEB students will enroll in DEB282 (~7-12 units) via normal processes and submit a final report for grading to the course instructor, Prof. Abhaya Dandekar (see <https://deb.ucdavis.edu/internships>). *(Note: please inquire about the course CRN# for the quarter you will complete this project, or if you will be filing your dissertation soon, register immediately and receive an Incomplete grade which will be updated during your final/filing fee quarter.)*
- Dr. Jamison-McClung will serve as the DEB Sci Comm Internship mentor, provide guidance/editorial oversight on individual projects and share related training opportunities and resources. Plan to discuss blog topics with her before commencing your research and writing.

Blog Format and Minimum Sci Comm Output for Course Credit

- ~3000 words submitted to Dr. Jamison-McClung for posting on the Biotech Program blog <https://biotech.ucdavis.edu/blog>. Each post should range from ~500 to ~1000 words in length. A minimum of 3 complete blog posts (different topics) at ~1000 words each will be required to satisfy the course requirement.
- For each blog post:
 - Reference one or more peer-reviewed journal articles, in addition to popular media articles, government reports, white papers, patents, or other scientific literature (e.g. ~3 in-depth blogs [1000+ words/3+ peer-reviewed sources each] to ~6 shorter blogs [500+ words/1+ peer-reviewed sources each]). The reference list is for internal use and will not be posted with the blog.
 - Create/produce **two or more original visual media** items to accompany each blog (e.g. photo, figure, infographic, YouTube video). These should be your own creative work and not derived from copywritten/protected media. If using software, such as Biorender, to create figures, make sure to include their required legal statement within the image or blog caption. If using a figure from a publication you authored, please send along the citation information.
 - Images should be no larger than 3MB and in file formats .png, .jpg, .jpeg or .gif
 - Write a short caption for each image submitted with the blog.
 - Indicate which image should be placed at the top of the blog as the “main image”, as well as preferences for where to insert the other image(s) within the text.

Editorial Oversight

Dr. Jamison-McClung will provide editorial oversight for the **Endoplasmic Biotech-You-Learn Blog**, social media and YouTube platforms that host content created for the DEB/Biotech Program Science Communication Internship. The DEB Executive Committee will serve as arbiter (via majority vote) of any disputes that may arise

regarding content suitability for internship credit or public posting. All submitted content will be Creative Commons licensed and posted/archived on Biotechnology Program social media and website platforms.

Toolkits and Tips for Getting Started

- Review the UC Davis Social Media Guidelines <https://www.ucdavis.edu/social-media/guidelines>
- Review the AAAS Communication Toolkit <https://www.aaas.org/resources/communication-toolkit> to learn more about science communication goals and best practices.
- Start blogging by writing about a biotech-related topic you know and love – share your enthusiasm for your dissertation work, for example.
- Write about topics that are currently capturing the public imagination and impacting public policy (e.g. COVID-19 strategies for vaccine development, “test and trace”, social distancing)
- Assume your general audience (campus colleagues, policy makers, community members, K-14 educators and students) has a minimum ~6th-8th grade understanding of science basics:
 - parts of a cell and human physiology/organ systems
 - human heredity/genetics and DNA as the “blueprint of life”
 - kinetic vs. potential energy, gravity, friction, and simple machines (e.g. levers, pulleys)
 - basic structures of an atom and the layout of the periodic table
 - life cycles of familiar insects and animals
 - nutrient flows via plant photosynthesis and food webs
 - our solar system and the Earth’s seasons, water cycles, nutrient cycles, etc.

For reference, the California Department of Education Next Generation Science Standards (NGSS) for Middle School can be found here: <https://www.cde.ca.gov/PD/ca/sc/ngssstandards.asp>.

Other Helpful Resources

Below, I have listed a selection of researchers, journalists, bloggers and professional organizations for more sci comm tips and inspiration. Caveat - this is sampling of a large body of publicly available work and “how to” advice on science communication, so feel free to explore other resources.

Infographics

- American Chemical Society <https://www.acs.org/content/acs/en/pressroom/reactions/infographics.html>
- LABIOTECH <https://www.labiotech.eu/infographics/>
- Biofortified <https://biofortified.org/info/>

Campus Communicators

- C. Titus Brown, The Living in an Ivory Basement Blog <http://ivory.idyll.org/blog/>
- Jonathon Eisen, The Tree of Life Blog <https://phylogenomics.blogspot.com/>
- Kathy Keatley Garvey, The Bug Squad Blog <https://ucanr.edu/blogs/bugsqquad/index.cfm>
- Paul Knopfler, The Niche Blog <https://ipscell.com/>
- Alison Van Eenennaam, BioBeef Blog <https://biobeef.faculty.ucdavis.edu/>
- EggHead Blog (curated by Andy Fell) <https://egghead.ucdavis.edu/>
- ScienceSays <https://davis sciencesays.ucdavis.edu/>
- UC Davis News <https://www.ucdavis.edu/news>

Professional Science Communicators - Writers and YouTubers

- Emily Graslie <http://www.emilygraslie.com/>
- Maryn McKenna <https://marynmckenna.com/>

- Ed Yong <https://edyong.me/>
- Carl Zimmer (advice to new science writers) <https://carlzimmer.com/to-beginning-writers/>

Science Organizations – News Stories and Blogs

- SynBioBeta <https://synbiobeta.com/news/>
- AAAS Science Magazine <https://www.sciencemag.org/news>
- PLOS Blogs <https://blogs.plos.org/>