

Professional Development (College Hacks)

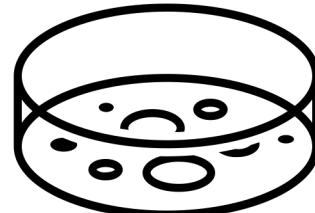
Bioinformatics Summer Short Course 2024

Madeline Chertkow



Professional Development Topics:

- Undergraduate research
- How to write an email
- Summer internships
- LinkedIn

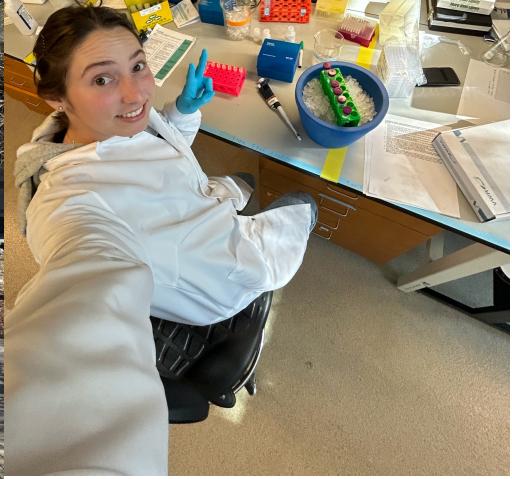
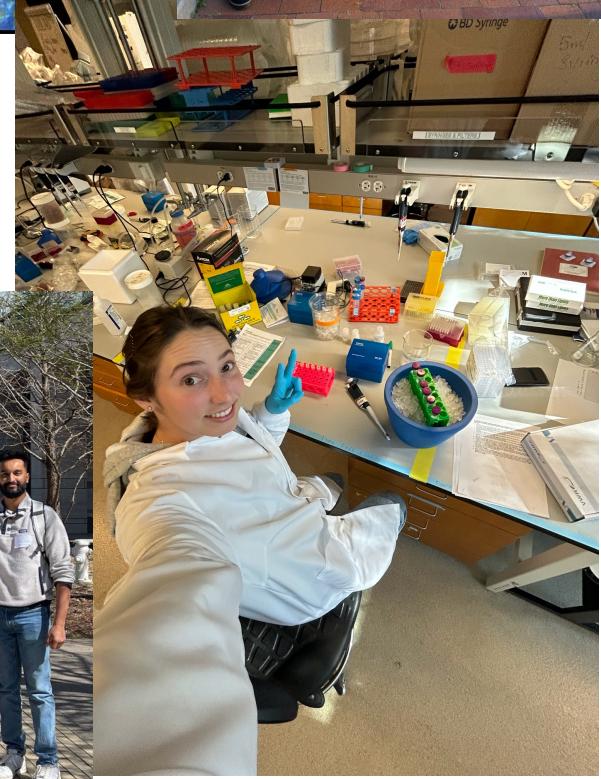
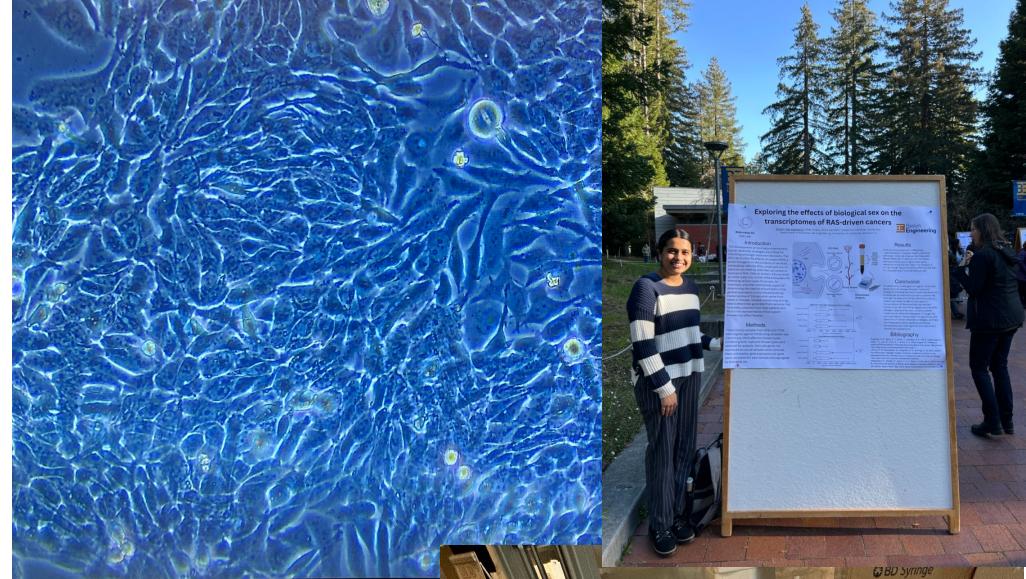


Undergraduate Research!

Super cool research on campus!

Cool new discoveries with really cool people!

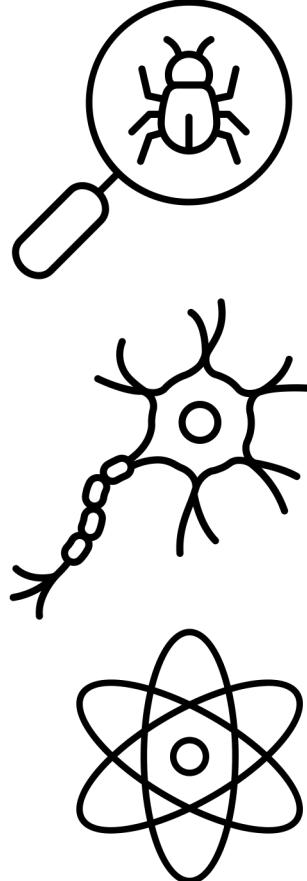
Help you figure out what you want to do with your degree!



College Hacks – Finding undergrad research!

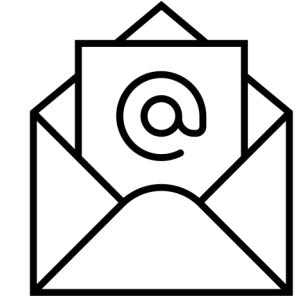
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- Undergrad research [website](#)
- Read their published papers
- Emailing Professors/graduate students (cold calling)
- [Create a resume/CV](#)
- [UCLEADS](#)
- Something I would tell past me:
 - Yes, it is intimidating but know that you're there because people believe in you
 - Grad students are there to support you, not bring you down
 - ALWAYS ask questions
 - It's ok to not be 100% about what research you're doing. You can change what you focus on throughout your research experience

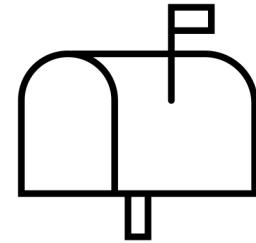


College Hacks! – Writing an email

- Heading –
 - Good morning BLANK, Good afternoon Professor BLANK
- To Professors –
 - Course name in the subject (CHEM 1A, BLAH BLAH BLAH)
 - Name
 - Give context to what you're asking them
- To faculty –
 - If you don't know the name of who you're writing to: To whom this may concern
 - In following emails be sure to include the name of whoever responded
- Closing –
 - Sign with your name and a contact
 - Signatures
 - Best/ best regards



Signature examples:



Roman Reggiardo
PhD Candidate | Daniel Kim Lab | UCSC Biomolecular Engineering
NIDDK-KUH F99/K00 Fellow
2022-23 UCSC CITL Pedagogy Fellow
2022 Baskin Engineering Anti-Racist Research Fellow
2022-23 UCSC Genomics Institute DEI Committee Member

Susanna Honig, Ph.D.
Director, Academic Excellence (ACE) Program
University of California, Santa Cruz
Web: ace.ucsc.edu

Madeline Chertkow
mchertko@ucsc.edu
UCSC Biomolecular Engineering and Bioinformatics Undergraduate

Mark Akeson
Professor (Recalled)
Biomolecular Engineering Department &
Genomics Institute
UC Santa Cruz
Cell: 831-741-6343
makeson@soe.ucsc.edu

Madeline Chertkow
mchertko@ucsc.edu
UCSC Biomolecular Engineering and Bioinformatics Undergraduate Researcher
Koret Scholar | WASA Scholar
UCSF SRTP Undergraduate Researcher

Email structure:



Madeline Chertkow

Request for a letter of recommendation

To: Mark Akeson

January 10, 2023 at 2:45 PM

Good afternoon Professor Akeson,

My name is Madeline and I was a student in your BME22/23L course when you taught the class during the pandemic. The way you were able to redesign the course to allow us to stay on track with our wet lab skills rather than letting the pandemic take yet another key part of our education away goes to show how much you cared to build our fundamental skillset to make us ready for a potential research lab position. Pushing us to recreate our own lab space at home and reengineer common household items to become crucial tools that allowed us to run our wet lab assays smoothly shaped me to be the biomolecular engineer I am today.

I can now proudly say I am an undergraduate researcher in Dr. Daniel Kim's lab at UCSC to which I have been apart of for almost 2 years. I have started mastering assays to analyze the excretion of RNA biomarkers encapsulated in membrane-bound vesicles from cancerous cells expressing mutant KRAS. The ultimate goal of this research is to help create a form of noninvasive cancer detection by way of an extracellular RNA signature matrix. I have been given the responsibilities of maintaining human tissue cultures, conducting cell viability and RNA expression assays, and analyzing the data produced to test our hypotheses on interesting biomarkers and expression patterns. I have been trusted to run my own project in order to benefit the lab's findings. Currently, I have been able to identify a set group of genes that are involved in regulation of the KRAS pathway that have been measured to be upregulated extracellularly through extracellular vesicles. I am now running qPCR to test if these same genes are upregulated intracellularly. The findings gathered from this project are now being included as a part of the preparation of a peer-review publication.

Wanting to expand my involvement in the STEM community, I joined the student ran organization Women in Science and Engineering (WiSE). As a WiSE officer, I help young girls and women become more involved in the sciences and create easy-to-access resources they can take advantage of to help further their STEM careers whether that be in academia or industry. Being a first-generation woman in STEM, I found an immense lack of resources to aid me in beginning college and moving forward in my biomolecular engineering degree. Having the opportunity to connect with these women to provide them with the numerous STEM outreach resources we have, comforts me in knowing they won't have to blindly navigate their STEM education career as I struggled to do.

This winter I am applying for summer internship positions to further my educational opportunities. In applying for these interships, I need to submit letter of recommendations. It would be an incredible honor if you were able to write a letter of recommendation on my behalf. If this is not possible please let me know at your earliest convenience. Thank you for your time!

Best regards,
Madeline Chertkow
mchertko@ucsc.edu

UCSC Biomolecular Engineering and Bioinformatics Undergraduate

Cold emailing template:

Good afternoon Dr. BLANK,

I hope this email finds you well. My name is [BLANK] and I am [CONTEXT ABOUT YOURSELF]. I am writing to you to express my interest in the research your lab is focusing on.

After reviewing your recent work on [BLANK], I am very intrigued by your findings regarding [BLANK BLANK]. I am eager to gain hands-on experience in [AREA OF INTEREST] and my contribution to your lab would provide me with an invaluable opportunity for me to apply and expand my knowledge of [AREA OF RESEARCH]

My background includes [RELEVANT COURSEWORK AND/OR ANY EXPERIENCE RELEVANT TO THEIR AREA OF RESEARCH]. Below you can find an attachment of my CV and transcript (can just include list of classes you've passed if your transcript isn't a flex). I am enthusiastic about the possibility of contributing to [CURRENT PROJECT GOING ON IN THE LAB] and learning from your expertise.

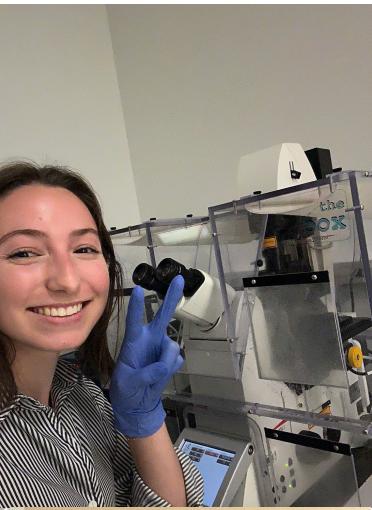
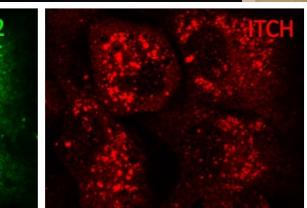
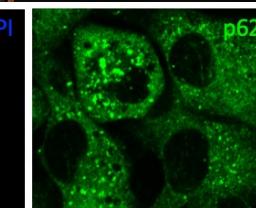
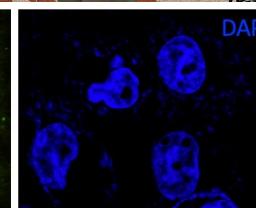
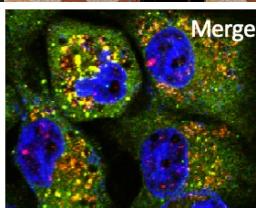
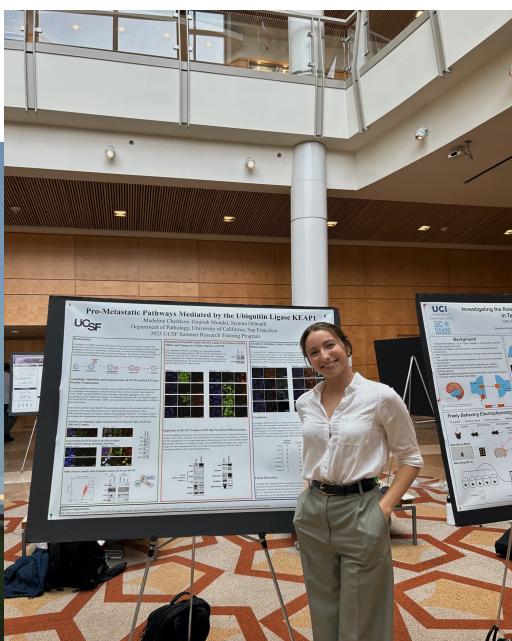
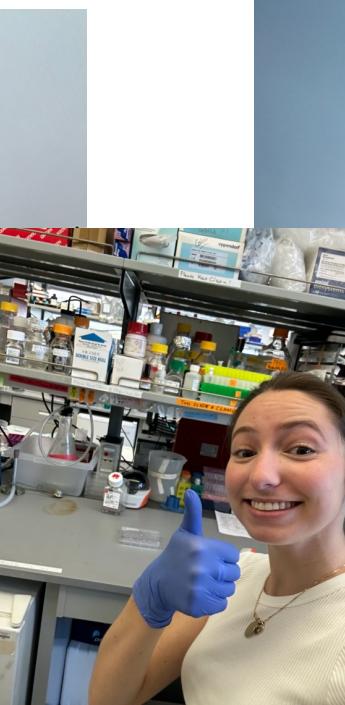
I would greatly appreciate scheduling a brief meeting to discuss your research and any open positions in your lab. Thank you for your consideration

Warm regards,
[SIGNATURE]

College Hacks – Summer Internships

Industry vs academic internships

National Science Foundation: Research Experience for Undergraduates (NSF REUs)



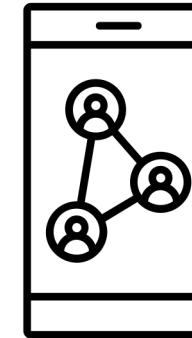
College Hacks: LinkedIn



Social media for your profession!

Things to post about:

- Education
- Work experience
- Research experience
- Projects
- Presentations
- Accomplishments
- Etc.



[My LinkedIn](#)

BSSC LinkedIn Description

Notes

- Use past-tense when describing
- Don't write too much, summarize in 2-3 bullets
- Bhavna's example:



UCSC Bioinformatics Summer Short Course

UC Santa Cruz Genomics Institute

Jul 2022 - Aug 2022 · 2 mos

Santa Cruz, California, United States



Interactive daily intensive course sponsored by the UCSC Genomics Institute that engages students in tools and principles relevant to bioinformatics

- Gained proficiency in Bash, command line functions, and Python programming
- Learned how to navigate and apply essential platforms such as the UCSC Genome Browser, AnVIL, and the Xena Browser

Skills: Anvil · Xena Browser · Python (Programming Language) · UCSC Genome Browser · Bash

Questions?

