

# School of MCB Undergraduate Research Information Session



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# Agenda

- What is undergraduate research?
- How to find a lab
- How to enroll in MCB 290/BIOC 290
- Student panel with research experience

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# What Is Undergraduate Research?

- A mentored investigation conducted by undergraduates that seeks to make a scholarly contribution to knowledge.
- Performed under the direction of a UIUC faculty member (P.I.), post-doc or graduate student.
- Earn course credit (MCB 290 or BIOC 290)
  - Letter grade that counts towards GPA
- Some paid positions exist ([Campus Job Board](#))
  - Cannot earn money if earning credit



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# Is Research Required?

- For PhD programs, YES!
- For most MD and DO programs, no, but helpful
- For MD/PhD program, YES!
- Research can help make you more competitive.
- Depends on mission of institution.



# What will I be doing in the lab?

- Assisting graduate students and postdocs with experiments
- Work on independent project
- Lab maintenance (washing dishes, making buffers/reagents, growing cells, maintaining mouse colonies)
- Attend lab meetings
- Present work at undergraduate research symposia
- Help prepare research manuscripts for publication



# Expectations

- Show dedication to the project. This should be a priority.
- Be reliable, be present, and ask questions
- Ask for help when you need it
- Communicate with your mentors
- May need to come in at odd hours, including nights and weekends.
- May be expected to attend lab meetings and present your data.
- May be expected to write a senior thesis.



# Campus Resources

- [Office of Undergraduate Research](#)
- [SMCB undergraduate research website](#)
- Departmental websites
  - [SMCB seminar calendar](#)
- [MCB RoadMAP newsletter](#)
- Academic advisors
- Faculty/professors
- Graduate teaching assistants



# Office of Undergraduate Research Apprenticeship Program

- Offers students with little or no research experience an opportunity to work with graduate students and postdoctoral research scholars on their research projects
- Program runs every spring for the entire semester
  - Research position last for one semester
- [URAP information and application](#)
- Application deadline: Friday, October 10, 2025, at 11:59pm



Illinois Office of  
**Undergraduate Research**



# How to Find a Lab

1. Determine when you want to start research and begin looking the semester prior
2. Make a list of faculty with whom you are interested in working.
3. Create a resume/CV.
4. Contact faculty via email: Be professional and concise; follow up, if necessary



# How to Find a Lab

Read about faculty research interests in MCB  
and beyond

- <https://mcb.illinois.edu/directory/faculty>
- Google UIUC \_\_\_\_\_ research

Make a list of faculty you want to contact



## MICROBIOLOGY

Finding solutions to global challenges, such as the emergence of new infectious diseases, skyrocketing antimicrobial resistance, and the health of our planet's ecosystems, will depend upon discoveries from microbiology research. Illinois microbiology faculty focus on the physiology, genetics, and pathogenesis of microbial organisms and viruses. Focus areas include:

Archaeal Biology | Bacteriophage Biology | Drug Discovery | Eukaryotic Virology | Gene Regulation  
Host-Pathogen Interactions | Microbial Communities/Microbiome | Microbial Physiology  
Molecular Evolution | Oxidative Stress

[Meet our faculty](#)

[Learn more about the department](#)



## CELL & DEVELOPMENTAL BIOLOGY

We study how cells grow and divide, assemble, and function to form multicellular organisms. Using multidisciplinary approaches, we investigate fundamental biological questions and are dedicated to training and educating students in modern molecular and cellular biology, cancer biology, developmental biology, and neuro-cognitive sciences. Focus areas include:

Cell Biology of the Nucleus | Epigenetics | Chromatin Biology | Developmental Biology  
(including Regeneration, Patterning and Cell Fate, Stem Cell Biology, Tissue Mechanics, Human  
Developmental Disorders) | Gene Regulation | Genetics | Genomics | Neurobiology | Neurological  
Disorders (e.g. Alzheimer's, Epilepsy, Fragile X) | Protein-Nucleic Acid Interactions | RNA Biology

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## MOLECULAR & INTEGRATIVE PHYSIOLOGY

We strive to understand gene products at multiple levels of biological organization, from molecules and macromolecular complexes to cells, tissues, and whole organisms. With the tools of molecular genetics, biophysics, and modern systems biology, physiologists are at the forefront of life and biomedical sciences. Focus areas include:

Cancer | Developmental Biology | Drug Discovery | Endocrinology | Epigenetics | Gene Regulation  
Genomics | Immunology | Ion Channels | Membrane Biology | Metabolism | Molecular Pharmacology  
Neurobiology | Neurological Disorders | Neuroscience | Protein Biochemistry & Protein Structure | Protein-  
Nucleic Acid Interactions | Reproductive Biology | RNA Biology | Signal Transduction

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## BIOCHEMISTRY

We investigate the processes in living systems from a molecular perspective. UIUC biochemists lead research in chemical biology, nucleic acids biochemistry, molecular virology, membrane biochemistry, genomics, microbial physiology, signal transduction & more. We provide tools to develop the next generation of medicine.

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# Interdisciplinary Centers

- [Institute for Genomic Biology](#)
- [UIUC Beckmann Institute](#)
- [Cancer Center at Illinois](#)
- [The Microbial Systems Initiative](#)

## THE ILLINOIS MICROBIAL SYSTEMS INITIATIVE

Research in microbial systems has broad implications for health, agriculture, and energy sectors—areas of significant strength at Illinois.

[LEARN MORE](#)

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**I** | Cancer Center  
at Illinois



Beckman Institute

# Non-MCB Labs to Consider

Integrative Biology	Chemistry
Psychology Neuroscience program	Kinesiology
Bioengineering Physics	Veterinary Medicine Pathobiology Comparative Biosciences
Crop Sciences	Animal Sciences
Beckman Institute	Institute for Genomic Biology (IGB)

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# Other ways to find a lab

- Read the MCB Road MAP newsletter for advertised positions
- Talk to your teaching assistants and professors that engage in research
- Talk to friends with undergrad research positions
- Learn more about current research by attending departmental seminars



# Resume prep

- Full name and preferred name, if different
- Illinois email address
- List your major(s) and declared minor(s)
- Expected graduation date (which semester and year)
- What is your overall GPA? Major GPA?
- Relevant courses taken, including class titles and grade earned (eg. MCB, IB, CHEM, PHYS, STAT, MATH, CS, etc.)
- Relevant skills (prior lab experience, knowledge of data processing software, animal handling experience, etc.)
- Past research experience
- Extracurricular affiliations and leadership experiences

<https://www.careercenter.illinois.edu/howtoresume>

# Contacting faculty

- ✓ Reach out the semester before you would like to start research
- ✓ Send introductory email – preferred method
- ✓ Be professional (use greeting and signature)
- ✓ Be specific to each lab – why are you interested in their research?
- ✓ Be patient and persistent
- ✓ Work in batches, contact 4 or 5 labs at a time



# Email example

## Reach out!

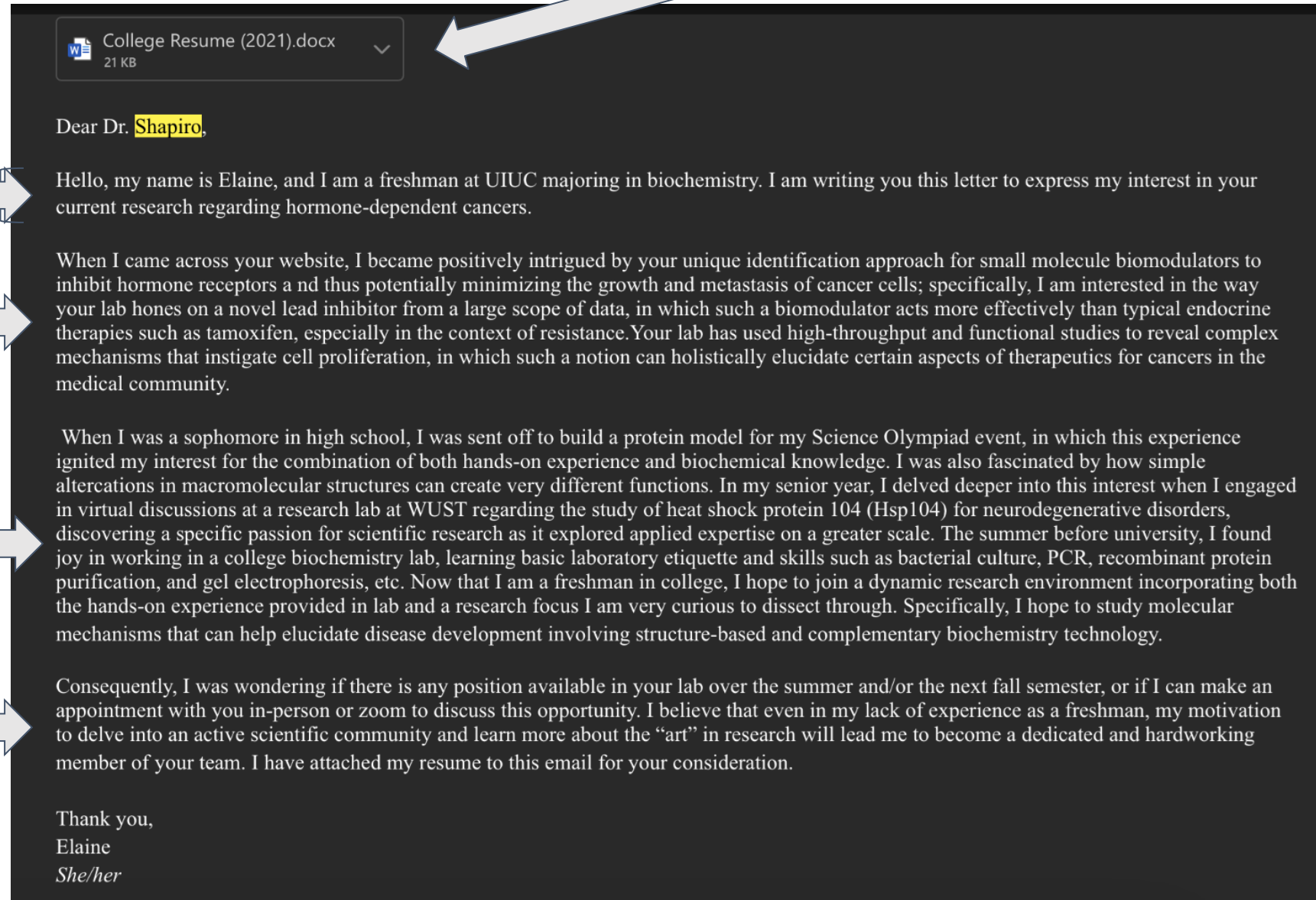
Small introduction +  
statement of intent

Motivation behind  
interest

Brief overview of past  
experiences/future goals  
(+ how it links to the  
lab's research)

Strong conclusion

Attach resume or cv!





# Waiting is the hardest part...

- "Yes, I would be happy to meet with you!"
- "No, I am sorry, but we do not currently have the \_\_\_\_\_" (space, funding, etc.)
  - Don't be discouraged, you can always try again next semester
- No response
  - Send a follow-up email 1-2 weeks after your initial email
  - Be persistent!!!





# Interview Tips

- Casual dress, but professional
- Come prepared to talk generally about lab projects and why you are interested
- Ask about expectations!!!!
  - When/how often are you expected to be in lab?
  - How will your grade be determined?
- Be honest about your availability
  - Academics should come first
- Send a brief thank you email



# MCB/BIOC 290: Research for course credit

- 1 credit MCB/BIOC 290 = approximately 5 hrs/week in lab/over a 16-week term (8-week summer sessions, 1 credit = 10 hrs/week)
- Keep in mind this is an average. You need to plan to stay until your work is done. Each lab will have own policies. Good to get this in writing.
- Make sure you have a clear understanding of the faculty expectations for credit and *how your grade will be assessed*.



# Eligibility for MCB 290/BIOC 290

- Must be a *declared* major in Biology, MCB, Neuroscience, or Biochemistry
- Conduct research in an *approved* laboratory **at UIUC**
- Good academic standing, recommended GPA of 2.75 or higher
- Cannot receive monetary payment, or any other form of academic credit, based on the research for which MCB 290 or BIOC 290 credit is earned.
- Must enroll in the course by the university deadline to add a semester course using the appropriate forms.

<https://mcb.illinois.edu/academics/undergraduate-programs/undergraduate-research>

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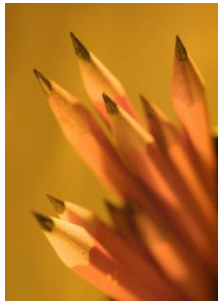
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# Limits ?

- A limit of 10 credit hours of MCB 290/BIOC 290 can be applied towards the 120 hours needed for graduation
- **However, you are encouraged to continue your research for as many terms as you wish.**
- All MCB 290/BIOC 290 semesters and the assigned letter grades will appear on your transcript and count in your GPA.





# How to Enroll in MCB 290/BIOC 290

- MCB 290 (for MCB, MCB + DS, and NEUR majors)
  - Online form: [MCB 290 Undergraduate research request](#)
- BIOC 290 (for BIOC majors)
  - Online form: [BIOC 290 request/renewal form](#)





# Academic Deadlines

## Last Day to Add a Course

- 10<sup>th</sup> day of fall/spring semester at 5:00 PM
- 7<sup>th</sup> day of summer session II at 5:00 PM
- Must renew every semester by the deadline using online form.

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# Making the most of your undergraduate research

- Present your work!
  - MCB Research Symposium, Undergraduate Research Symposium, and American Chemical Society Symposium
  - Society national and regional meetings
- Apply for a Summer Undergraduate Research Fellowship (SURF)
  - Get paid to do research over the summer!
- Write a senior thesis (MCB 492/BIOC 492)
- Help prepare research manuscripts for publication





# Undergraduate Research Panel

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# Questions

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