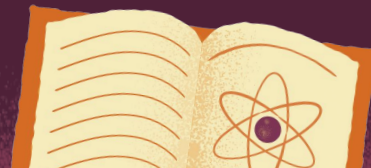
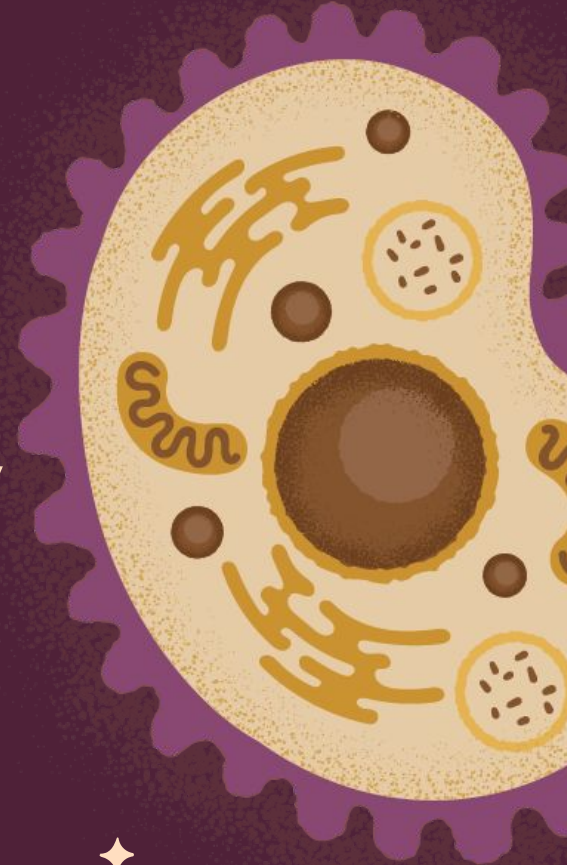




★ **Biology Council of Majors**
★ **RESEARCH READY**



Why Research?

- **Aside from being a fun, research is critical for:**
 - **Medical School**
 - **Graduate Schools**
 - ✦ - **Going into industry**
- **Great padding on your resume**
- **A good source of a letter of recommendation**

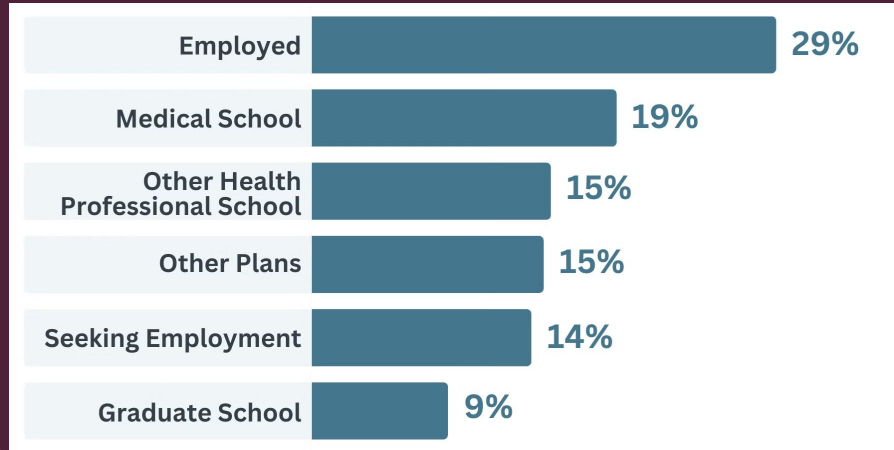


Fig. 1 Data combined from the Biology Graduation Survey from 2014-2023, UT Austin

Getting Into a Lab

The most common way to join a lab is by cold emailing.

- ✨ Key elements of a cold email:

- **KEEP IT BRIEF**
- **Introduce yourself**
- **Make it evident your familiar with their work**
- **What do you want from them?**
- **Play to your strengths**
 - **What did you take that prepared you for this?**
- **Attach a resume or offer it**

Dear Professor [Name],


My name is {name} and I am interested in doing laboratory research this academic year. I am currently a first year in Biochemistry and Molecular Biology. Going through the list of faculty in Biology, your research description of developing techniques for brain imaging greatly interested me. I hope to one day study how violent behavior and motivation to commit a crime arise to try to prevent criminal activity. Your lab seems like a good place to learn techniques to study such a thing, especially in regards to what areas of the brain are responsible for specific kinds of information processing to give rise to behavior.

Although this is only my first year at Michigan Tech, I have taken some classes and done laboratory work in the past that might benefit me were I to work in your lab. I have taken Chemistry ####, and am currently enrolled in Biology #### and Psychology ####. During high school, I worked for two summers in a Biochemistry laboratory that used yeast as a model organism. Also, I participated in a URAP at The Museum of Vertebrate Zoology. I have attached my resumé for more details.

If possible, I would like to meet with you in person to talk more about your research. Even if you cannot accept me, I would still love to hear about your work tracking neural activity.

Best, {Name}

Finding a lab

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Location
Department of Biological

Welcome back! Fall Semester is in full swing

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Directory

Faculty

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[Contact Us](#)

Location

Department of Biological Sciences
Biological Sciences Building,
Room 480

Hours

SUN Closed

MON 9 AM – 4:30 PM

TUE 9 AM – 4:30 PM

WED 9 AM – 4:30 PM





THU 9 AM – 4:30 PM

FRI 9 AM – 4:30 PM

SAT Closed

Contact

Faculty

FACULTY	CONTACT	RESEARCH AREA
 Alicea-Gutierrez, Gretchen Assistant Professor	ILSB 208 410-455-1674 Lab ILSB 207 galicea@umbc.edu	<ul style="list-style-type: none">Cell BiologyDevelopmental & ImmunologyMolecular Biology & Genetics
 Bieberich, Charles Professor Profile Research Group	ILSB 418 410-455-3125 Lab ILSB 417 410-455-2629 bieberic@umbc.edu	<ul style="list-style-type: none">Cell BiologyDevelopmental & ImmunologyMolecular Biology & Genetics
 Brewster, Rachel Professor Profile Research Group	BS 315 410-455-3570 Lab BS 309/310/311/313 brewster@umbc.edu	<ul style="list-style-type: none">Cell BiologyDevelopmental & ImmunologyMolecular Biology & GeneticsNeuroscience
 Burns, Mercedes Associate Professor	ILSB 215 410-455-2147	<ul style="list-style-type: none">Evolutionary Biology

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SAT Closed

Contact

Phone: [410-455-2261](tel:410-455-2261)

Contact Us

[myUMBC](#)

[Facebook](#)

[Twitter](#)

[in LinkedIn](#)

Bieberich Lab

Education

Postdoctoral, Yale University, 1990

PhD, Johns Hopkins University, 1987

Research Interest

Exploring the interface between development and cancer

During the past two decades, the molecular basis of animal development has been investigated with an ever-increasing arsenal of genetic and biochemical tools. As our understanding of the fundamental processes underlying animal growth and differentiation from zygote to adult has increased, it has become clear that changes in developmental pathways often underlie disease. The major focus of our work is to explore issues at the interface between development and human disease, with a view towards identifying novel points of therapeutic intervention. We employ techniques that reach from the whole animal down to post-translational modification of individual proteins to bring the full spectrum of modern genetic, cellular, molecular biological, and biochemical approaches to bear on each problem.

Our longstanding interest in of homeobox gene function in mouse development intersected with human prostate cancer with the [discovery of the mouse Nkx3.1 gene](#). Over the past decade, the concerted efforts of many groups, including ours, have revealed that human NKX3.1 functions as a prostate-specific tumor suppressor. NKX3.1 expression [decreases in prostate cancer](#) and in precancerous conditions. We are currently investigating molecular mechanisms controlling [transcriptional](#) and [post-transcriptional](#) regulation of NKX3.1 and other prostate-restricted transcription factors that play roles in cancer.

Current Members



Xiang Li
Assistant Research Scientist

Finding a lab

- Reach out to many professors, and most importantly: **FOLLOW UP** ✨
- ✨ If you didn't get a response, send a follow up email 5-7 days later stating your continued interest.
- Professors are super busy! Don't take it personally if you don't get a response.



Finding a lab

- **Opportunities exist everywhere for research, notably:**

Institute of Marine and Environmental Technology | IMET



Notable Scholarships

- **Once in research many opportunities exist for funding on campus!** ✨

Undergraduate Research Awards

Open To All Disciplines
Get up to \$1500 to support your research or creative work



ur.umbc.edu



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SCHOLARS PROGRAM



2025

MCNAIR SCHOLARS &
PRE-MCNAIR STUDENTS



UMBC

U-RISE


BARRY GOLDWATER
SCHOLARSHIP & EXCELLENCE IN EDUCATION FOUNDATION

REUs Are Critical











- Research experience for undergraduate are summer internships, usually 10 weeks, for students to gain extra research experience.
- ✦ - Most top universities offer opportunities
- Select based on genuine interest who to apply to
- Can be found on university pages or NSF portal

**NSF
ETAP**

EDUCATION & TRAINING
APPLICATION

Filters: REU  Filter Sort By Application Due Date

Displaying 1-10 out of 75

OPPORTUNITY AND HOST NAME	APPLICANT TYPE	DAYS LEFT TO APPLY	DUE DATE/TIME	ACTIONS
 NNA-CO Research Experience Program University of Colorado at Boulder Jun 2026 - Feb 2028	Undergraduate	Due in 14 Days	11/19/2025 11:59 PM ET	Apply Now 
 Research Experience for Undergraduates in Mycorrhizal Ecology North Central College May 2026 - Jul 2028	Undergraduate	Due in 40 Days	12/15/2025 11:59 PM ET	Apply Now 
 SIMCODES Summer 2026 Iowa State University Jun 2026 - Aug 2026	Undergraduate	Due in 66 Days	01/10/2026 11:59 PM ET	Apply Now 
 Penn MindCORE: Summer Research Experiences in the Interconnected Mind University of Pennsylvania Jun 2026 - Aug 2028	Undergraduate	Due in 67 Days	01/11/2026 11:59 PM ET	Apply Now 
 LIQO Caltech SURF 2026 California Institute of Technology Jun 2026 - Aug 2028	Undergraduate	Due in 67 Days	01/11/2026 11:59 PM ET	Apply Now 



**RESEARCH EXPERIENCE
FOR UNDERGRADUATES**

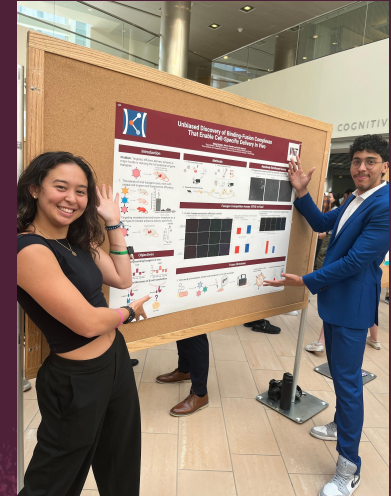
National Science Foundation



Supports intensive summer research by undergraduate students in any NSF-funded areas of research.

REUs Are FUN

- **Deadlines are usually through December to January**
 - **Required materials generally include:**
 - **CV/Resume**
 - **A series of essay questions**
 - **2-3 Letters of Recommendation**
 - **Questions can be similar, so apply to many using NSF.**



Fellowships and Postgraduate

- Opportunities exist postgraduate for continued research exposure

National Science foundation

Graduate Research Fellowship Program



NIH Postbac IRTA



National Institutes
of Health



FULBRIGHT

Good Luck!

- **Please if you need any help applying to ANY of the following, please reach out to me!** ✨
- ✨ - **Im happy to read people's applications & help in any way I can!**

ahussin2@umbc.edu

