

All About Finding Research & Creative Endeavor Opportunities



**CASE WESTERN RESERVE
UNIVERSITY**

Undergraduate Research Office

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Location: Sears Library 247
Appointments Available Through My Journey



Session Outline

Purpose

Terminology

Office Summary of Resources

What is Undergraduate Research

Getting Started: Why, When, and Compensation

Panel

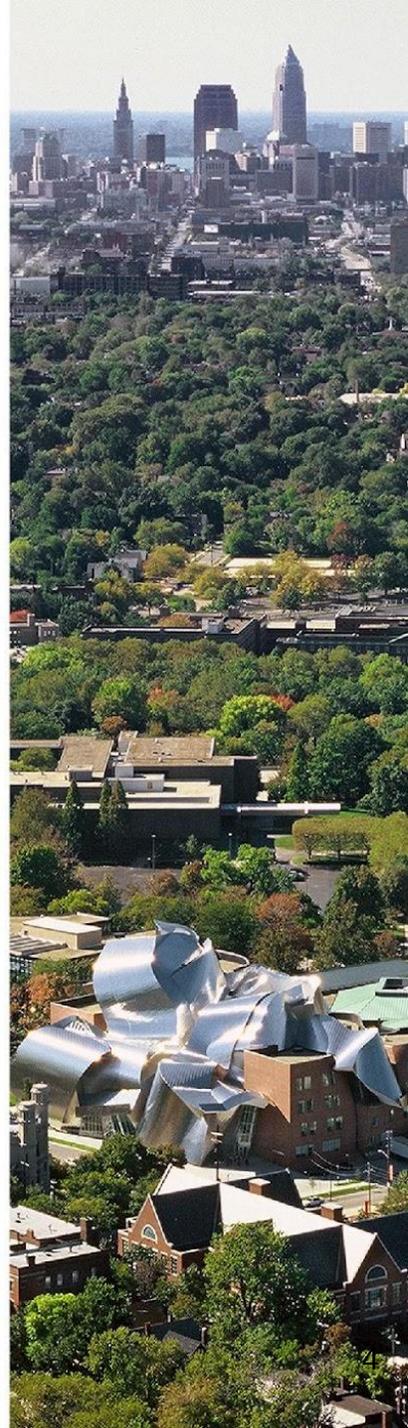
How: Finding Undergraduate Research & Communicating with Faculty

Q&A



Purpose

To assist and prepare students to engage in research and creative endeavors, and to guide and, where appropriate, to supplement institutional, departmental, and divisional work with this effort.



Terminology

Faculty Mentors; Primary Investigators

Other project mentors/advisors may be:
Graduate Student & Post Doctoral Advisors
Research Staff

At CWRU - Professors, Associate and Assistant Professors
At CC – STAFF

STEM: Science, technology, engineering, mathematics

Resources for Students

Assistance in Finding Opportunities

Intersections Poster Session

April 19, 2024; August 1, 2024

Funding

SOURCE Travel Funding

SOURCE Summer Funding

Other Funding Opportunities

Educational Information Sessions

Responsible Conduct of Research

How To Present Research

How To Make a Poster

And Many More!

Research Student Groups: Discussions and the Undergraduate Research Society



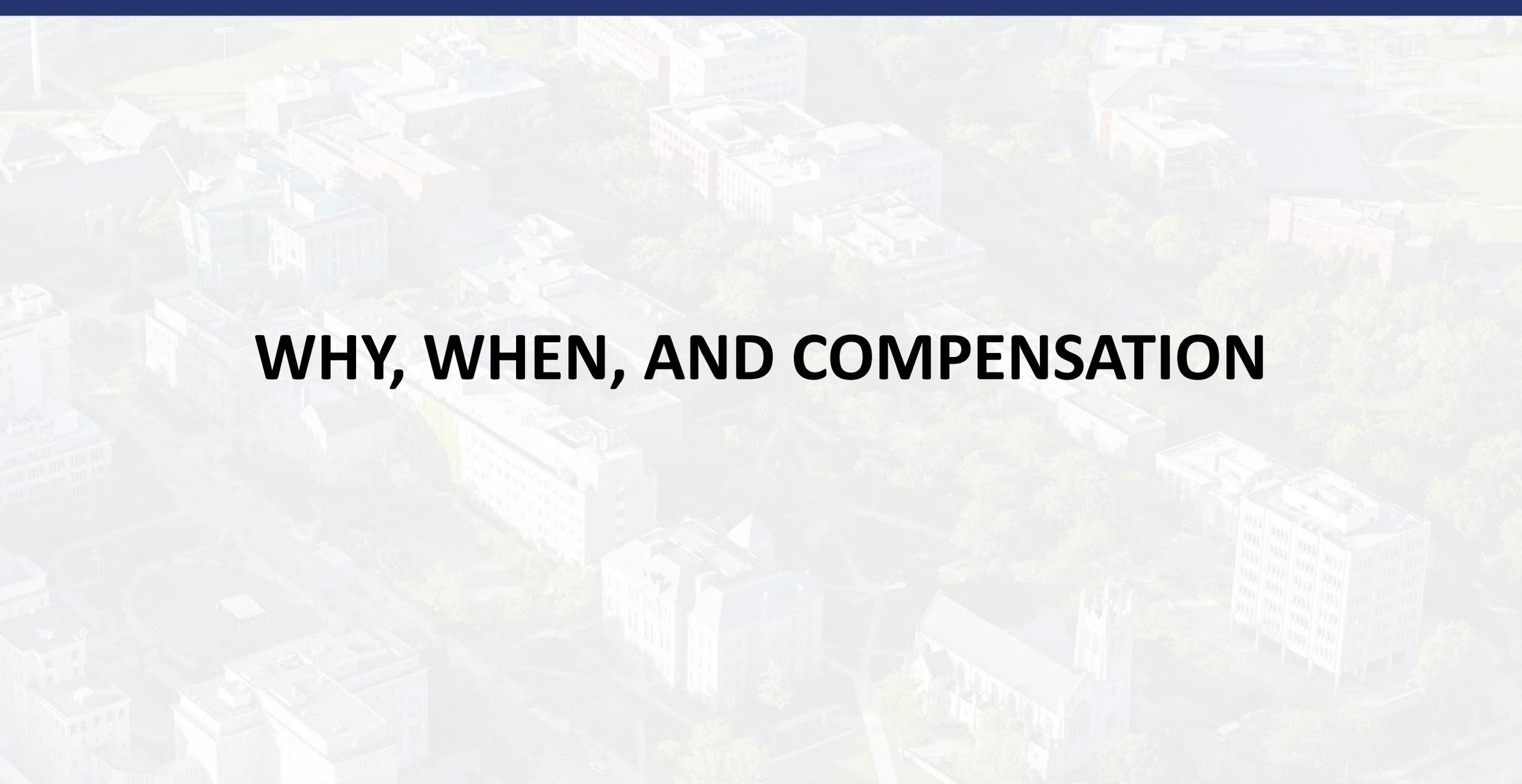
What is Undergraduate Research?

Research - new knowledge

Faculty Mentored

Research Intensive University, most undergraduate researchers, especially in STEM and the social sciences happens with connecting to faculty members' research.

More independent research, but still faculty mentored, happens in the humanities.



WHY, WHEN, AND COMPENSATION



Why?

Preparation for Present and Future Goals

Explore a college major

Prepare for Senior Capstone

Preparation for Graduate School or Professional School

Professional Skill Development

Build a professional network and establish mentoring relationships

Develop thinking and problem-solving skills

Enhance needed workplace skills, including verbal and written

Communication, teamwork, and adaptability



When & Compensation

During the Academic Year

Available Time

Volunteer/For Pay/Academic Credit

During the Summer

Many opportunities on or off Campus

Compensation



Snapshot of Previous Participant

Arts, Humanities and Social Sciences



Shreya Balaji

Project: Impact of Social Needs/Support Intervention Programs on Patient Health and Unmet Needs in Cleveland, OH

Mentor: Dr. Sarah Ronis, Department of Pediatrics, University Hospitals Center for Child Health & Policy

Summary: This project evaluated the impact of social support and social needs intervention programs on the prevalence of unmet social needs (such as food insecurity, financial insecurity and utilities-related needs and disconnections) as well as mental and physical health appraisals in the patient population that seeks care at the University Hospitals Ahuja Center for Women and Children in Cleveland, Ohio.



Snapshot of Previous Participant

Engineering

Jenny Lian



Project: Real-time Microfluidic Evaluation of Hemostatic Properties of Procoagulant Synthetic Platelets

Mentor: Dr. Anirban Sen Gupta, Department of Biomedical Engineering

Summary: The goal for this project is to test natural platelet mechanisms of hemostasis using a synthetic platelet particle in injury site-localized amplification of coagulation using real-time microfluidic evaluation.



Snapshot of Previous Participant

Life Sciences



Hannah Yan

Project: Impacts of chronic ethanol exposure and withdrawal on gut microbiota and the gut-brain axis

Mentor: Dr. Gail Cresci, Ph.D., R.D., L.D.,
Department of Inflammation and Immunity,
Cleveland Clinic

Summary: The objective of this project is to better determine the influence of ethanol exposure and withdrawal on various neuroactive metabolites of the gut microbiome, inflammatory markers, and pain.



Snapshot of Previous Participant

Physical Sciences

Xavier Moskala

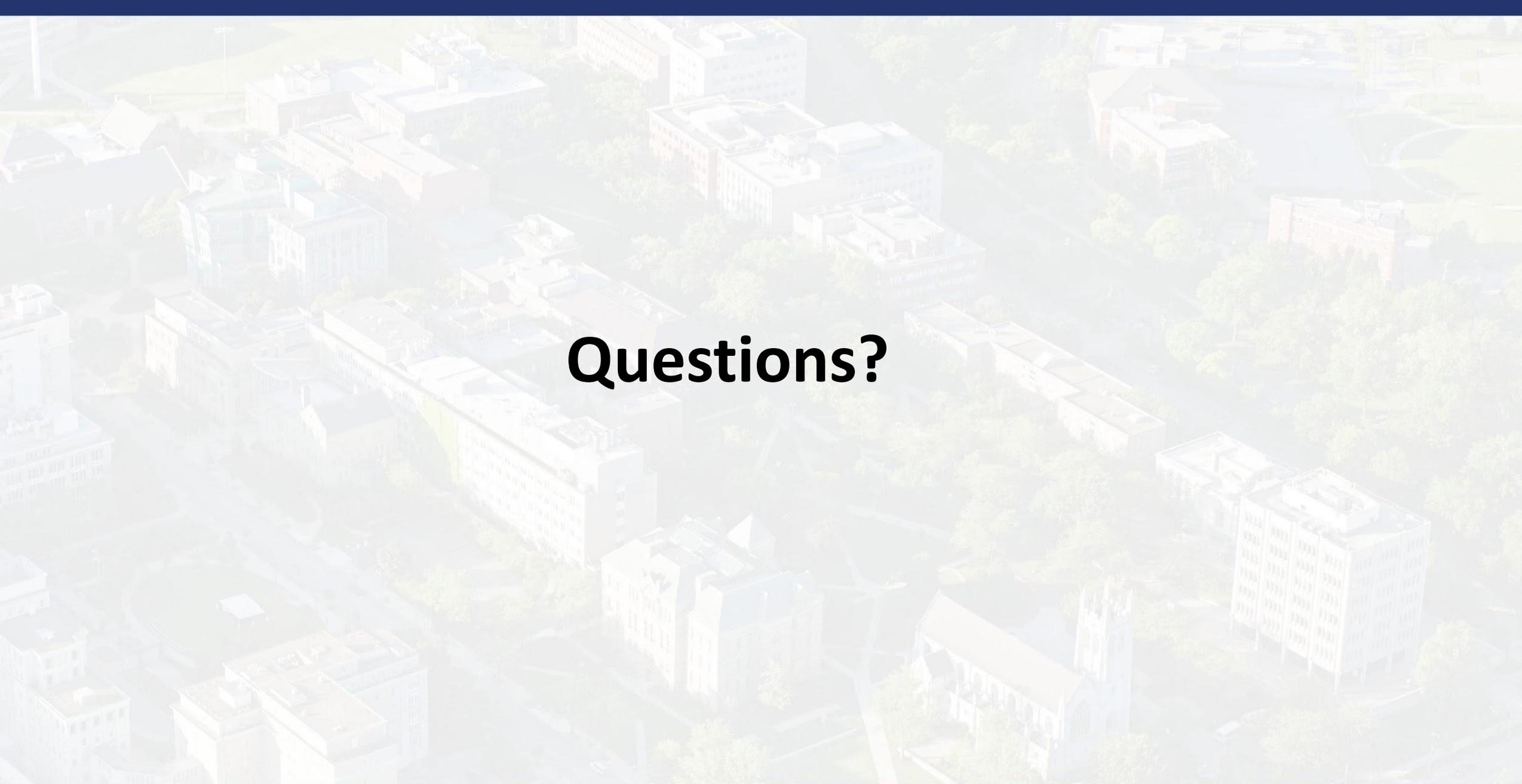


Project: Binary Star System Timing

Mentor: Dr. Benjamin Monreal, Physics

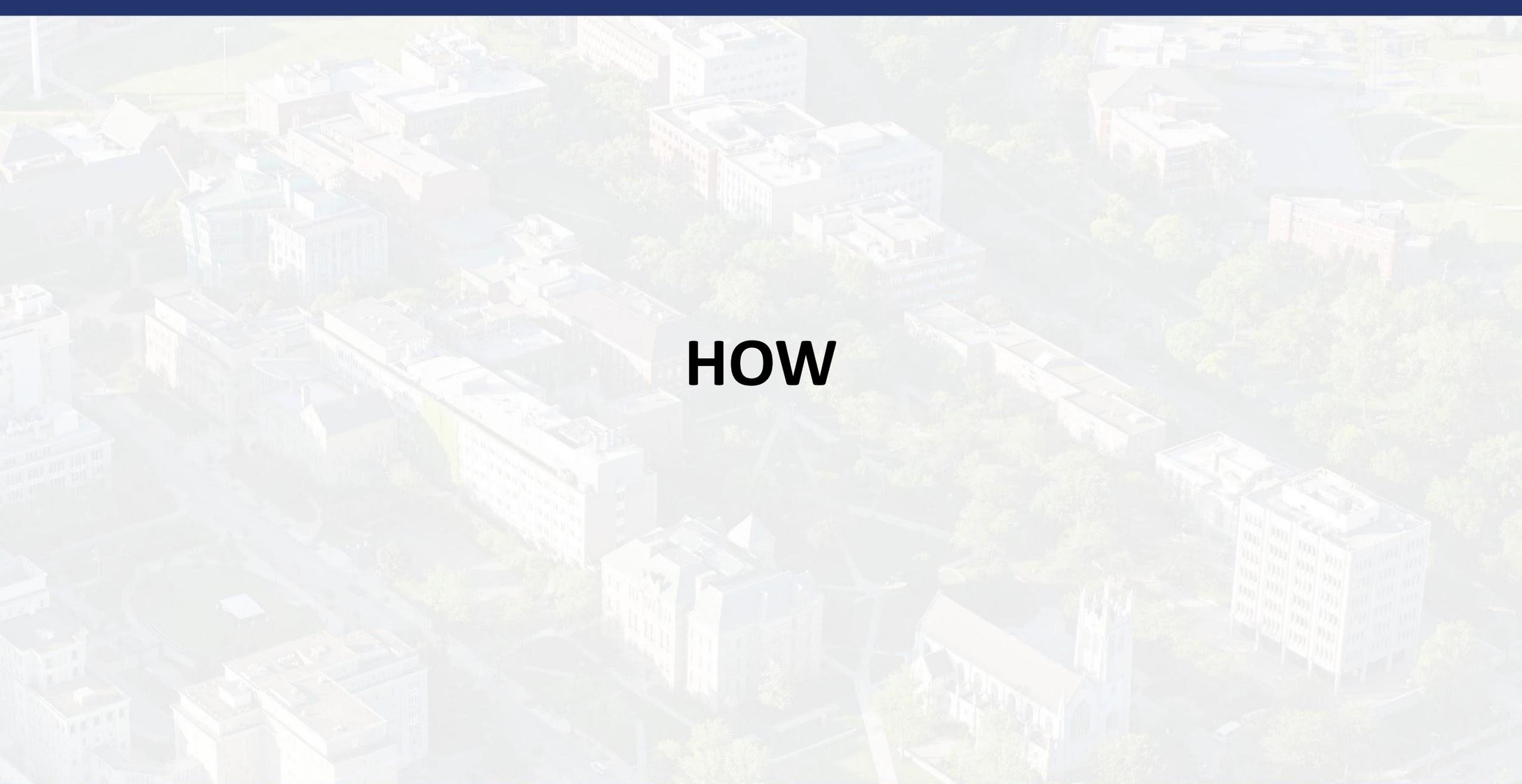
Summary: By modelling binary star systems and their light curves, our objective is to determine the required timing precision needed for any system of interest and use that information to make proposals for observations on real telescopes.





Questions?



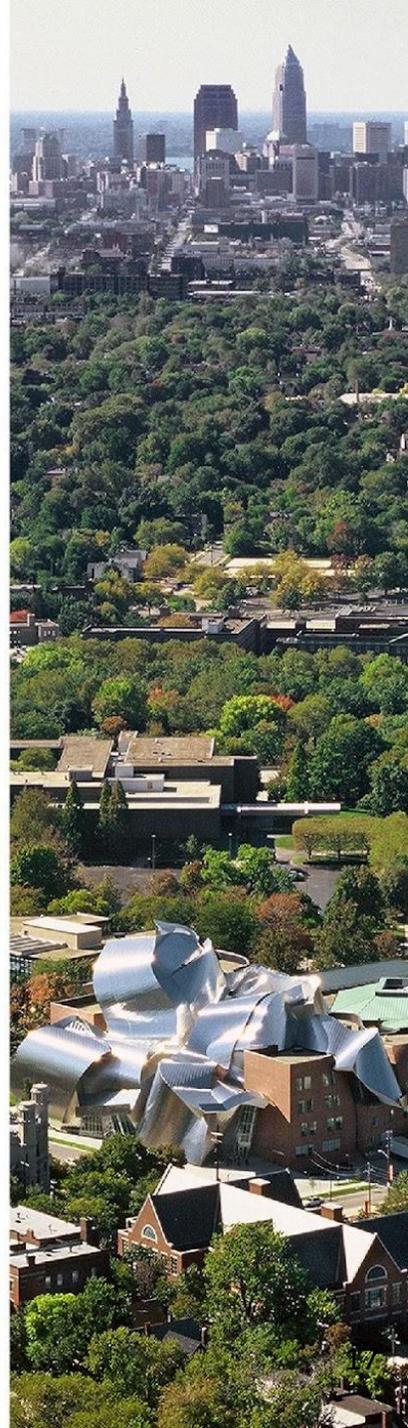


HOW



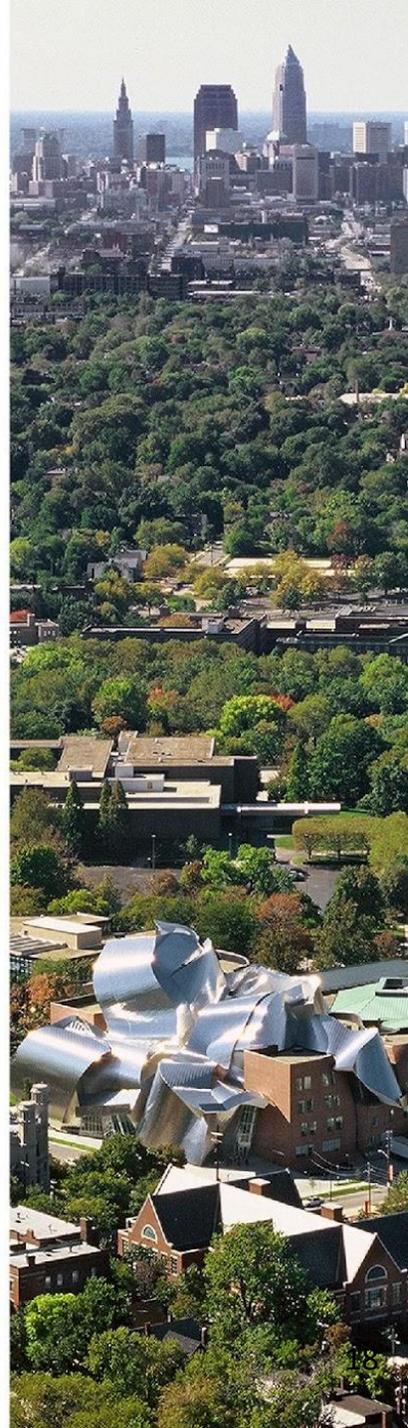
Lots of Ways!

- Think about your research interests
- Learn who is doing what
- Connections with faculty (class & department lectures), staff, and friends
- Undergraduate Research Society
- Read *The Daily*
 - There often are features articles about faculty and student research



URO Website

- Explore the [Undergraduate Research Office Website](#)
 - The Opportunity List
 - Faculty Research Profiles
 - Explore all possible departments - beyond the undergraduate departments
- Keep many doors open at the same time



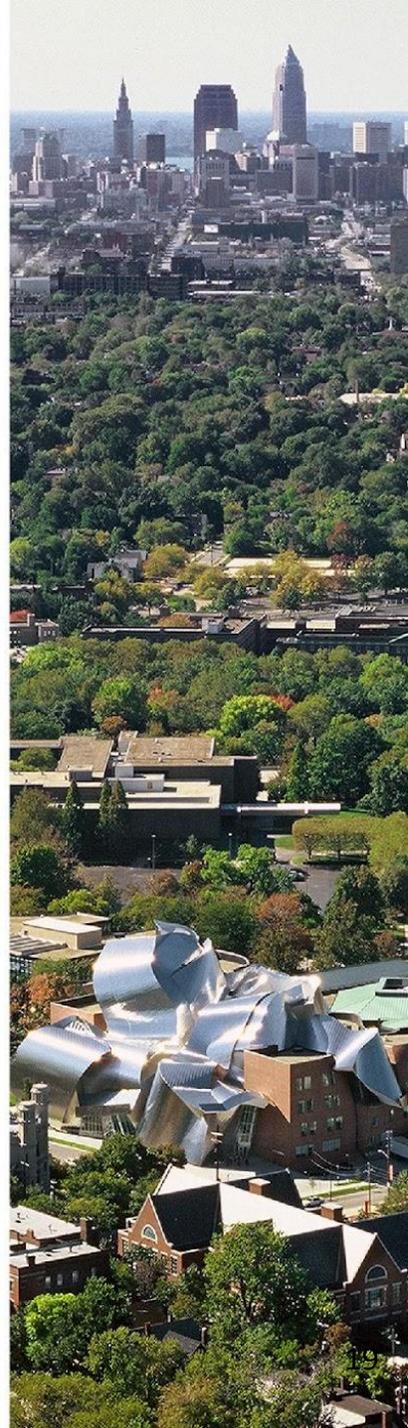
Finding Summer Opportunities

The Undergraduate Research Office website provides info about on- and off-campus summer programs, around the country and internationally.

- Plan to conduct your summer search during winter break.
- Most program deadlines are in January and February
- Programs require recommendation letters: plan ahead

If searching at a particular university, utilize the faculty research profiles in the same way as here at CWRU.

- Explore all possible departments - beyond the undergraduate departments
- Keep many doors open at the same time



Undergraduate Research Office

[Undergraduate Research Office Website](#)





Contacting Mentors



Making The Initial Email Contact

Must be brief

Most important: Know about and connect with the research

Express interest in learn about the research

Discuss number of hours per week

Discuss compensation - Volunteer, work-study, course credit

Attach a resume

(Career Consultants Schedule on Handshake)

Making the Initial Contact: Outline

Dear Professor X

Introduce yourself

State where you learned about their opportunity (if applicable). Share that you read their research profile. Connect with their research/desire to learn/ etc.

Provide information about when you can begin, hours per week, volunteer/paid-work-study?/ course credit.

Desire to meet with them.

Closing

Making the Initial Contact: Sample

Dear Dr. Last Name,

I hope your summer went well! My name is *First Last*, and I am a rising sophomore at planning to major in biology. I'm currently a volunteer at University Hospitals for Rainbow Babies and am also interested in finding a research position for the fall semester. I noticed that the research you are conducting regards gene expression and have been drawn to your studies because I want to be involved in the field of developmental biology and genetics.

Your research involving the *Drosophila melanogaster* is particularly interesting because I learned about this organism in Biology lab and learned about gene expression. It would be exciting to apply what this learning in class to this field of study. Since this type of investigation concerns important aspects of biology and its future, it would be exciting to be a part of your investigations.

If you are looking for any undergraduates to assist you with your research, I would greatly appreciate it if you considered me as a candidate. While I am very willing to volunteer, I have a work-study award, so I would prefer to be paid if at all possible. I am eager to be part of a research team where I can learn and be involved in a topic that intrigues me. I am able to work up to 8-10 hours a week. I have also attached my résumé. Thank you for your time.

Best Wishes,
First Last

Barriers?

**What barriers might you encounter
at this time in your search for
undergraduate research?**



Overcoming Barriers

Email several PIs individually and at once

Follow-up 7-10 days later, if you do not receive a reply

Thread onto previous email

Make appointments with all who respond

Make appointment with the Undergraduate Research Office

Remember: Keep Several Doors Open at Once

Interview/Meeting

Know where you are going (may be virtual)

Be on time

Be prepared: Review research profile

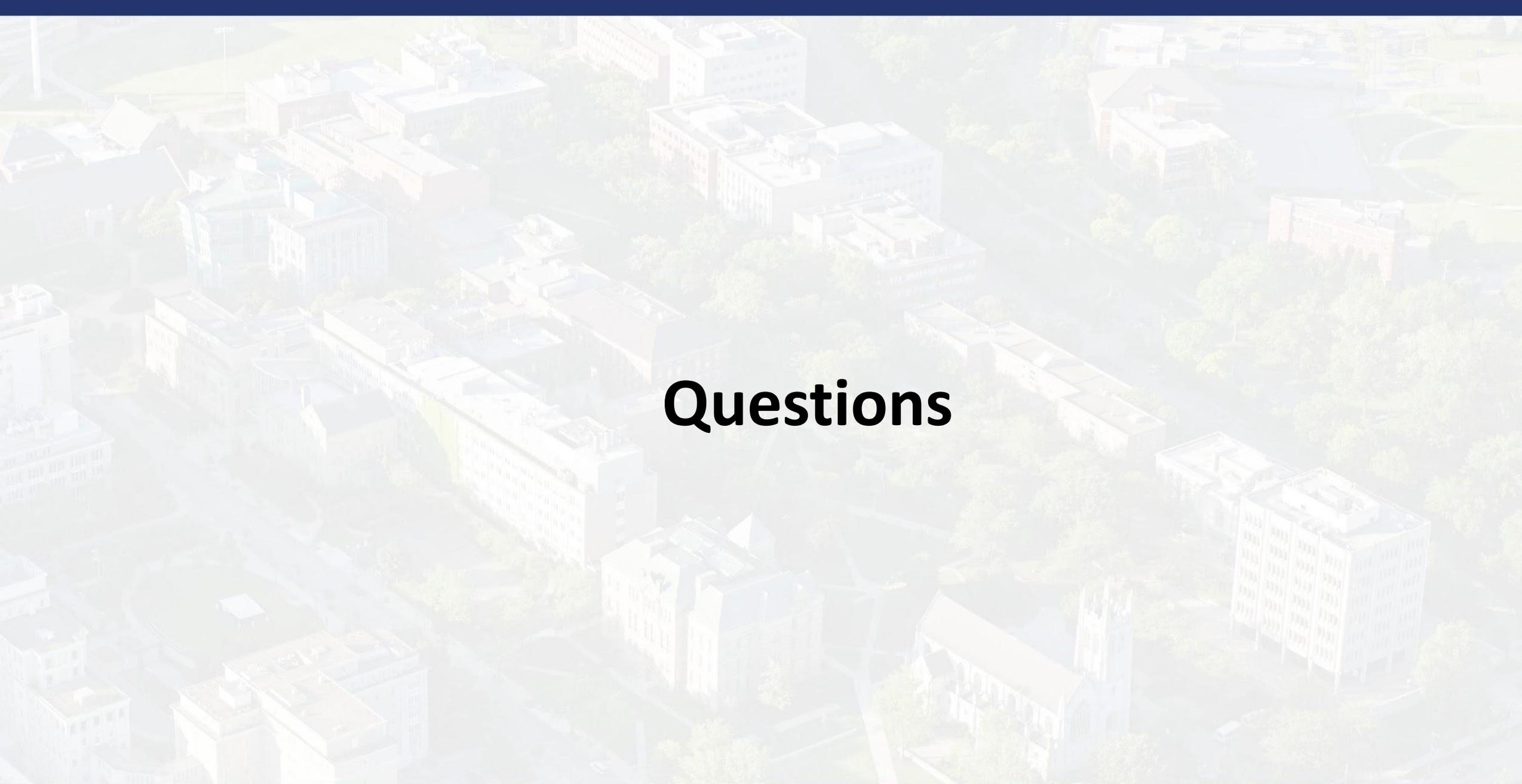
Share your desire (and enthusiasm) for the work and learning



What Can You Do Now?

Read Often and Critically
Attend/Complete Responsible Conduct of Research series
Attend Department/University Lectures
Improve written and Oral Communication Skills
Learn to Search Academic Databases
Teach Yourself Basic Coding (Linked-In)
Statistical Thinking Skills
Content Production Illustration





Questions

