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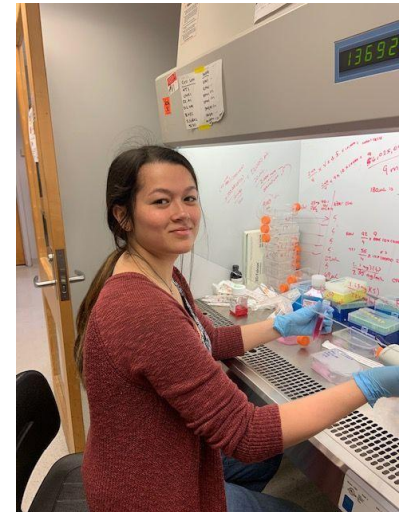
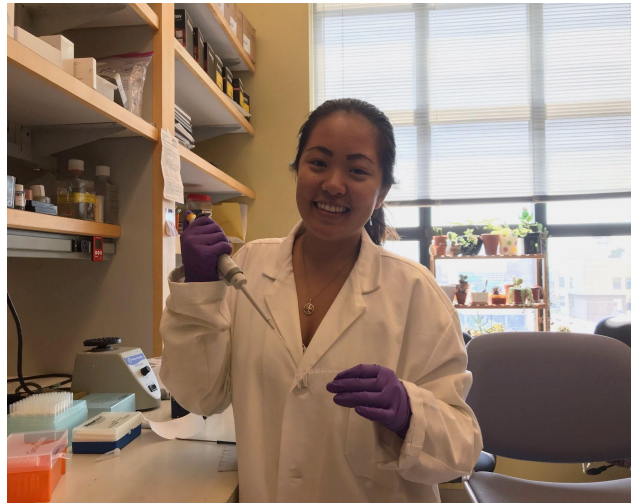
All About Finding Undergraduate Research & Creative Endeavor Opportunities



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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.



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Session Outline

Terminology

Resources For Students

Getting Started:

Why, When, Snapshot - Previous Research Participants

How? Finding Undergraduate Research –

Communicating with Faculty

Q&A

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Terminology

Faculty Mentors; Project Mentors, Project Advisors

Primary Investigators

Graduate Student & Post Doctoral Advisors

Research Staff

Layered Mentoring

At CWRU - Professors, Associate Professors, Assistant Professors

At CC – STAFF

Capstones

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Resources for Students

Assistance in Finding Opportunities

Academic Year or Summer – here, around the country and abroad

Intersections: SOURCE Symposium & Poster Session

April 21, 2023, July/August 2023, December 2023

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

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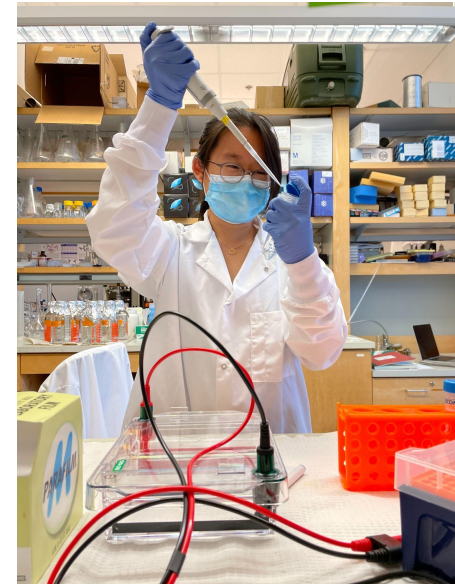
Getting Started



Why

When

Previous Participants



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Why?

Case IS a research intensive university with a culture of undergraduate research

Preparation for Present and Future Goals

- Explore a college major

- Prepare for Senior Capstone

- Prepare for Graduate School (and Application)

- Enhance a Professional School Application

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Why?

Professional Skill Development

Build a professional network and establish mentoring relationships

Develop outstanding thinking and problem-solving skills

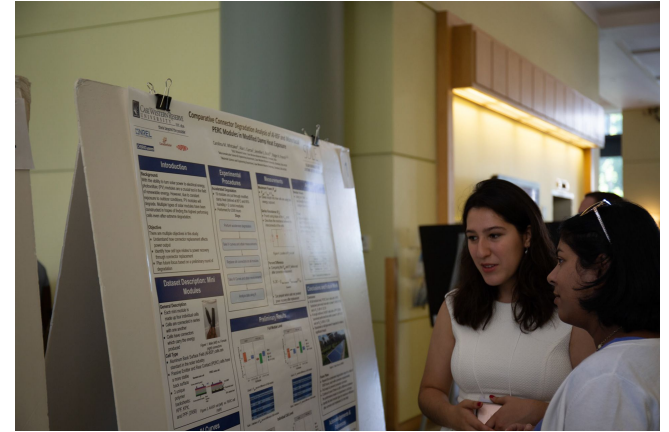
Enhance valuable workplace skills, such as verbal and written communication, teamwork, and adaptability

It is fun

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When?



During the Academic Year

Available Time

Volunteer/For Pay/Academic Credit

During the Summer 2023

Many opportunities on or off Campus
Compensation

Snapshot of Previous Participant

Arts, Humanities, Social Sciences



Henry Blyth

Project: Examining the Diffusion of English Across Wales During the Industrial Revolution

Mentor: Dr. David Clingingsmith, Department of Economics

Summary: This project consists of collecting data and building a database to be used in creating an economic model of language diffusion.

Snapshot of Previous Participant

Engineering



Jose Diego Zubieta

Project: Sustainability Research: Solar Cell Durability and Lab Greening

Mentor: Dr. Ina T. Martin, Dept. of Material Science and Engineering, Dept. of Physics ; Dr. Laura Bruckman, Dept. of Material Science and Engineering

Summary: (1) Accelerated aging and characterization of solar cells with novel architectures in order to better understand their degradation modes. (2) Assist the Climate Action Network in the Lab Greening subgroup through the implementation of asset management efforts.

Snapshot of Previous Participant

Life Sciences



Peter Coggan

Project: The Impact of Neuronal Coordination of Wing Flapping and Olfactory Tracking in Free Flying *Manduca sexta*

Mentor: Dr. Mark Willis, Department of Biology

Summary: How does silencing the neural connection between the flight muscles and antennal lobe impact odor tracking in free flying moths, *Manduca sexta*?

Snapshot of Previous Participant

Physical Sciences and Mathematics

Hana Lee



Project: Effect of Charge Residues in the PSGL-1 Glycopeptides on dmCore-1 and GFP labeled dmCore-1 Transferase Activity

Mentor: Dr. Thomas Gerken, Department of Biochemistry, School of Medicine

Summary: P-selectin glycoprotein ligand-1 (PSGL-1) is a glycoprotein that is expressed on lymphoid and myeloid cell surfaces including platelets and T cells, a type of leukocyte. The glycosylation of a series of PSGL-1 glycopeptides with various charges will be characterized against the dmCore-1 glycosyltransferases. Molecular modeling and electrostatic surface calculations of the transferases will be performed to determine the mechanism for how dmCore-1 transferases specifically select PSGL1's biologically important site to glycosylate.

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CHECK-IN
QUESTIONS?

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How To Find A Position

Many Ways!

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How To Find A Position

What are your research interests?

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How To Find A Position - Semester, Summer

First Steps

Learn Who is Doing What

Connections with Faculty, Staff, and Friends

Consider Lab Assistant Positions (Handshake – student employment)

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How To Find A Position - Semester, Summer

Explore the SOURCE Website:
The Opportunity List

SOURCE Website Links to ALL Faculty Research Profiles!

Review websites of all possible departments

Keep many doors open at the same time

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How To Find A Position

The SOURCE Website provides info about positions on- and off-campus, around the country, and internationally!

Awareness of program deadlines:

Most summer program deadlines are in January, February and March

Conduct a thorough web search during winter break

Give letter writers adequate time
(minimum of 2 weeks)

Keep many doors open at the same time

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How To Find A Position - At a Particular University

Looking for summer research at a particular university (not CWRU)?

Search the faculty research profiles and contact specific people
(just as you would at CWRU during the academic year)

Review the undergraduate research office position openings
for summer programs opportunities

Review the departments' websites for summer positions and programs

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Exit to website

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Making The Initial Contact

Must Be Brief

Most Important: Know About the Research

Express Interest in Learning About the Research

Discuss the Number of Hours per Week

Discuss Compensation

(mostly volunteer at first but work-study...)

Must Be Succinct: Attach A Resume

(Career Consultant Schedule on Handshake)

Ask for a Meeting

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Dear Professor Last Name,

General line/greeting.

2 sentences about who you are/classification/major

If you read their position announcement on the opportunity page/someone referred you/ say so. Share that you read their research profile and provide information about your interest in their work (being specific)/ desire to learn more/ etc.

Provide information about when you want to begin (which semester and/or summer). For semester research, discuss how many hours per week you are available; volunteer/ paid – work-study?/ course credit. For summer, you may mention that you plan to apply for SOURCE funding.

Desire to meet with them to discuss how you can be part of their team.

Best Wishes,
First Last

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Greetings Dr. Mizutani,

I hope your summer has been going well! My name is *First Last* and I am a rising sophomore at Case Western planning to major in nutritional biochemistry. 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 have recently learned about this organism in Biology lab and have also been learning about gene expression and it would be exciting to apply what I've been 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 hours a week, but if need be I can find time to work more. I have also attached my résumé. Thank you for your time.

Best Wishes,
First Last

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Making The Initial Contact

Email Several PIs Individually at Once

Barriers and How to Respond to Them

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Interview/Meeting (In Person)

Be On Time!

Business Casual

Shake Hands & Introduce Self

Be Prepared: Know About the Research

Share Your Desire (and enthusiasm) For the Work

Make sure you know where you are going!

Choosing an Opportunity

Accepting and Declining Opportunities

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Interview/Meeting (Virtual)

Be On Time!

Business Casual

Test the Technology, Get Comfortable

Eye Contact

Be Prepared: Know About the Research

Share Your Desire (and enthusiasm) For the Work (and Learning)

Choosing an Opportunity

Accepting and Declining Opportunities

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What Can You Do (and add to your resume) In the Interim

Read

Attend Department/University Lectures

Written and Oral Communication Skills

Learn to Search Academic Databases

Basic Coding

Image Analysis

Content production

Statistical Thinking Skills

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What Are Your Next Steps?

Upcoming Summer Research Application Q&A

When is this session?

Wednesday, January 25, 5 pm
Sears Library 439

What is this session?

This session focuses on specific questions students have about applications, statements, etc. and NOT about finding summer research. Questions are not limited to SOURCE applications. Join us with your questions!

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Office/Staff Information

Post Graduate Planning and Experiential Learning
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Appointments Can Be Made Through My Journey
Sears (Library) 229

Sheila Pedigo, Ph.D., Director
Oscar Ramos, M.A., Associate Director
Bethany Pope, Department Assistant
source@case.edu

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Thank You!

Questions?