

Summer (Re)Search: Finding Opportunities On & Off Campus November 3, 2023

Ina Martin, PhD
Director of the MORE Center

Sheila Pedigo, PhD
Director, Undergraduate Research Office

Oscar Ramos, MA
Associate Director, Undergraduate Research Office

Welcome

Introductions

Presenters

Attendees

- Classification
- Discipline Areas



Agenda

Why Summer Research
On Campus Summer Programs
Off Campus

- Using the website
- Research Opportunities for Undergraduates (REU)
- National Laboratories:

Student & Faculty speakers

Q&A



Why Summer Research?

- Advance knowledge in your field of study
- Specialize
- Great preparation for graduate school
- Effort is paid
- Expand network (and references)
- Try something new - topic, lab, location



On-Campus Research Opportunities

[Undergraduate Research Website](#)

On Campus Research Opportunities

Campus-Based Summer Programs

- Varied Research Areas
- Most do not require that students already have identified a mentor
- CWRU & non-CWRU Students
- Deadlines and Websites Updated approximately by Thanksgiving Break (pay attention to previous deadline)

Specific examples to follow...

Advanced Platform Technology (APT) Center is a Department of Veterans Affairs Research Center in the Rehabilitation Research and Development Service

10-week research experience in biomedical-focused labs for undergraduates in STEM majors

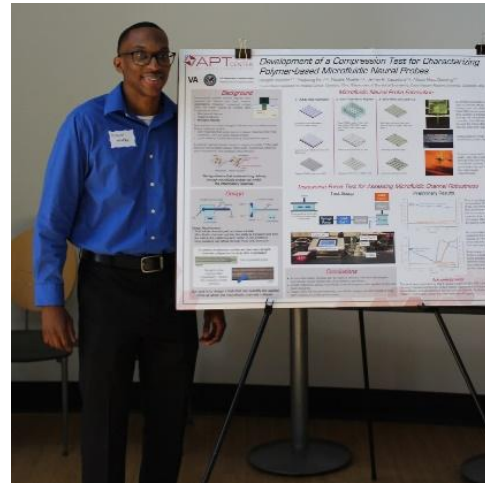
Research
Experience

Mentorship

Instruction

Professional
Development

Housing



Application will be available in **early December** at <https://www.aptccenter.research.va.gov/careers/sip.asp>
Add your email address now to be notified!

Case CCC Pathways: For a future cancer research workforce.

Middle and High School Students and Teachers

Undergraduate

Post-Baccalaureate

Medical Students

Graduate Students

Postdocs

ESI

Faculty Leadership

Transitions Sponsorship Program

Middle → High → Undergraduate

Emerging Researcher
ACS-SHE

R25-CanSUR
Jackson

ACS-CanSUR
Keri

ACS-Post-bacc
Keri

R25-PREP
Crawford

PRIME
Nieman

MSTP
Huang

CWRU-MD
CCLCM-MD

BSTP
Lodowski

Dean's Scholar (PD to ESI)

CATALYST
Postdoctoral
Fellowship

MESI, Scholar Exchange, Emerging
Leadership Training

Fellowship, CDA, Grant Writing & Reviewing

T32-CBTG
Jackson

K12-CORP
Schwartz

T32-CoGEC
Xu

FRAME

FLEX

As Assistant Director of Cancer Training, Education, and Research, I work with individuals at all levels for placement in Case CCC Member laboratories. Damian Junk, djj40@case.edu

CanSUR Program- Case Comprehensive Cancer Center



The Cancer-focused Summer Undergraduate Research program aims to excite highly motivated undergraduates to pursue a future in cancer research and prepare them for the next stage of their careers.

- 40 undergrads for a 10-week program.
- \$5,000 stipend.

Important Dates for the 2024 Program

- **November 1, 2023- applications open**
- January 19, 2024- applications close
- Late February- Early March- program offers
- May 28, 2024- program begins

2019-2023 at a glance:
Nearly 1,600 applications

- 10% acceptance rate
- From 200 institutions
- 178 total participants
- Seeking CWRU students



Post-Baccalaureate Programs



American Cancer Society
Diversity in Cancer Research
Postbaccalaureate Program



CASE WESTERN RESERVE UNIVERSITY
Case Comprehensive Cancer Center



For more info contact us at:
cancer-training@case.edu



Case Western Reserve University School of Medicine

Postbaccalaureate Research Education Program

CWRU-PREP & the ACS Post-baccalaureate Programs offer a one- or two-year training, respectively, to prepare for graduate school. (PhD or MD/PhD).

Post-baccalaureate
Readiness Instruction
for bioMedical Education

Thinking beyond the possible



Your Medical School Journey Starts Here



CWRU-PRIME is a one-two year program to prepare for medical school.

On Campus Research Opportunities

SOURCE SUMMER Funded Programs

PSURG, SURES, STEM, AHSS

- Identify mentor before applying
- Applicants submit a research proposal as part of application
- ALL CWRU students are eligible to apply

Source is grateful for the tremendous support of the Case Alumni Association (CAA).

SOURCE also thanks many campus colleagues who partner with us to increase summer opportunities, include the Flora Stone Mather Center for Women and the Engineering Dean's Office.

UH Clinical Research Departments

Big Changes at UH

More assistance in finding clinical research!

Broad Description Today...

Many more details next Friday, Nov 10, 12:45 p.m. - 2:00 p.m.

Rockefeller Hall 301; Register on Handshake

Sponsored by Career Center and Undergraduate Research Office

Resources for You – UHhospitals.org/ResearchCareers

- A centralized location for anyone interested in engaging in clinical research as their career!
- UH Clinical Research Website
 - Current Clinical Research Job and Internship Opportunities
 - Observation Program
 - Research Credentialing Information
 - Resources for Current Employees

The screenshot displays the UH Clinical Research Career Opportunities website. At the top, there are four navigation cards: 'UH Clinical Research Career Opportunities', 'College & High School Students', 'Research Ambassadors', 'New Clinical Research Staff', and 'Investigators and Clinical Providers'. Below these, the main content area is titled 'UH Clinical Research Career Opportunities' and features three prominent sections: 'Job Shadowing', 'Search for Careers and Internships', and 'Upcoming Career Fairs and Events'. Each section includes a brief description and a 'Learn More' or 'Search' button.

Clinical Research Internships for the Summer

- Internships will appear on the Careers board with Job Titles as:
 - Clinical Research Assistant (PRN)
 - [Department Name] Intern
- Typically are paid.
- Will be posted between **March and April**, so keep an eye out!
- If you mention in your application you heard of the internship opportunity through a **RIE Lecture**, you may have some leverage!

Career Board: <https://careers.uhhospitals.org/>

Non-Campus Based Research Opportunities

Hundreds of options!

Non-Campus Based Research Opportunities

[UR Non-Campus Based Research Opportunities](#)

- **Arts and Humanities Programs**
- **Management Programs (Including Economics)**
- **Underrepresented Minority and Women's Programs**
- **Social Science Programs (Including Economics)**
- **STEM (Science, Technology, Engineering and Mathematics) Programs**
- **General Databases and Other Universities' Lists**

Non-Campus Based Research Opportunities

[URO Website](#)

- Association of American Medical Colleges - Summer Undergraduate Research Programs
- AMGEN Scholars Programs -Prestigious; includes international opportunities, prior undergraduate research required
- [Pathways to the Sciences](#)

National Science Foundation: Research Experiences for Undergraduates (REU)

NSF, an independent agency of the United States government supports fundamental research and education in all the non-medical fields of science and engineering.

- REU Site: 8-10 week programs; 8-12 undergraduates
- Stipends, assistance with housing, travel
- Student works on a specific research project (with faculty, other researchers)
- “Citizens or permanent residents of the United States or its possessions.”

National Science Foundation - REU

Search for an REU Site

- [Astronomical Sciences](#)
- [Atmospheric and Geospace Sciences](#)
- [Biological Sciences](#)
- [Chemistry](#)
- [Computer and Information Science and Engineering](#)
- [Cyberinfrastructure](#)
- [Department of Defense \(DoD\)](#)
- [Earth Sciences](#)
- [Education and Human Resources](#)
- [Engineering](#)
- [Ethics and Values Studies](#)
- [International Science and Engineering](#)
- [Materials Research](#)
- [Mathematical Sciences](#)
- [Ocean Sciences](#)
- [Physics](#)
- [Polar Programs](#)
- [Small Business Innovation Research \(SBIR\)](#)
- [Social, Behavioral, and Economic Sciences](#)

SEARCH BY RESEARCH AREAS/KEYWORDS:

National Institute of Health (NIH)

NIH: NSF's Counterpart for Medical Research
[Pathways for Students and Recent Graduates](#)

Apply Early and Contact the PI Directly When Recommended

[The NIH has 27 Institutes and Centers](#). Many of the institutes and centers have their own summer programs... [[Summer Internship Program in Biomedical Research \(SIP\)](#), [NIDDK Diversity Summer Research Training Program](#), [BME Summer Internship Program](#), [Cancer Research Intern](#), ETC.]

National Institute of Health (NIH)

We find the NIH very helpful.

When they say you can contact them if you have questions, they mean it! Contact them!

Webinar and Q&A: Applying to NIH Summer Internship Program

- November 30, 3-4pm
- January 4, 3-4 pm

For Link - <https://www.training.nih.gov/research-training/pb/sip/>

National Laboratories: SULI, NASA, NIST

- Excellent opportunities for STEM.
- Great research opportunities for undergraduates, graduate students, and PostDocs.
- Chance to work on some of the most advanced technology in the world - opportunity to work on a device or platform that may not exist anywhere else.
- Distinct, recognizable and credible in industry.
- Great next step when you are unsure whether you want to go into industry or into academia.
- And, they are HIRING!

Department of Energy - DOE

[Science Undergraduate Laboratory Internships \(SULI\)](#)

The SULI program encourages undergraduate students and recent graduates to pursue science, technology, engineering, and mathematics (STEM) careers by providing research experiences at the Department of Energy (DOE) laboratories.

3 Terms Annually: Summer, Fall, and Spring
2024 Summer Term: Application due January 9, 2024

Department of Energy - DOE

The 17 DOE National Laboratories comprise a preeminent federal research system, providing the Nation with strategic scientific and technological capabilities

Office of Science Laboratories

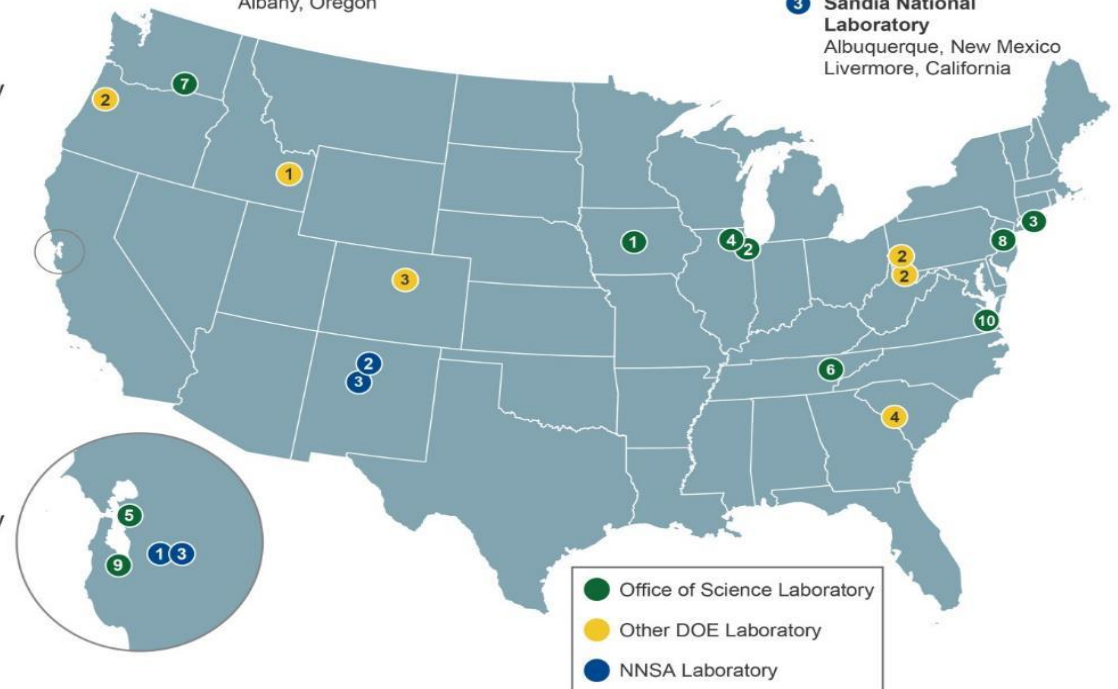
- 1 Ames Laboratory
Ames, Iowa
- 2 Argonne National Laboratory
Argonne, Illinois
- 3 Brookhaven National Laboratory
Upton, New York
- 4 Fermi National Accelerator Laboratory
Batavia, Illinois
- 5 Lawrence Berkeley National Laboratory
Berkeley, California
- 6 Oak Ridge National Laboratory
Oak Ridge, Tennessee
- 7 Pacific Northwest National Laboratory
Richland, Washington
- 8 Princeton Plasma Physics Laboratory
Princeton, New Jersey
- 9 SLAC National Accelerator Laboratory
Menlo Park, California
- 10 Thomas Jefferson National Accelerator Facility
Newport News, Virginia

Other DOE Laboratories

- 1 Idaho National Laboratory
Idaho Falls, Idaho
- 2 National Energy Technology Laboratory
Morgantown, West Virginia
Pittsburgh, Pennsylvania
Albany, Oregon
- 3 National Renewable Energy Laboratory
Golden, Colorado
- 4 Savannah River National Laboratory
Aiken, South Carolina

NNSA Laboratories

- 1 Lawrence Livermore National Laboratory
Livermore, California
- 2 Los Alamos National Laboratory
Los Alamos, New Mexico
- 3 Sandia National Laboratory
Albuquerque, New Mexico
Livermore, California



Department of Energy - DOE

Award Benefits:

- Paid internships (\$650 weekly stipend, dedicated funding for travel and lodging)
- Labs provide training seminars and professional development opportunities

Eligibility:

- U.S. citizen or legal permanent resident
- Undergraduates from 2- or 4-year colleges, freshman through senior year or recent graduates
- At least 18 years old at time of application
- Minimum cumulative GPA 3.0
- May participate in SULI twice; may apply up to three times

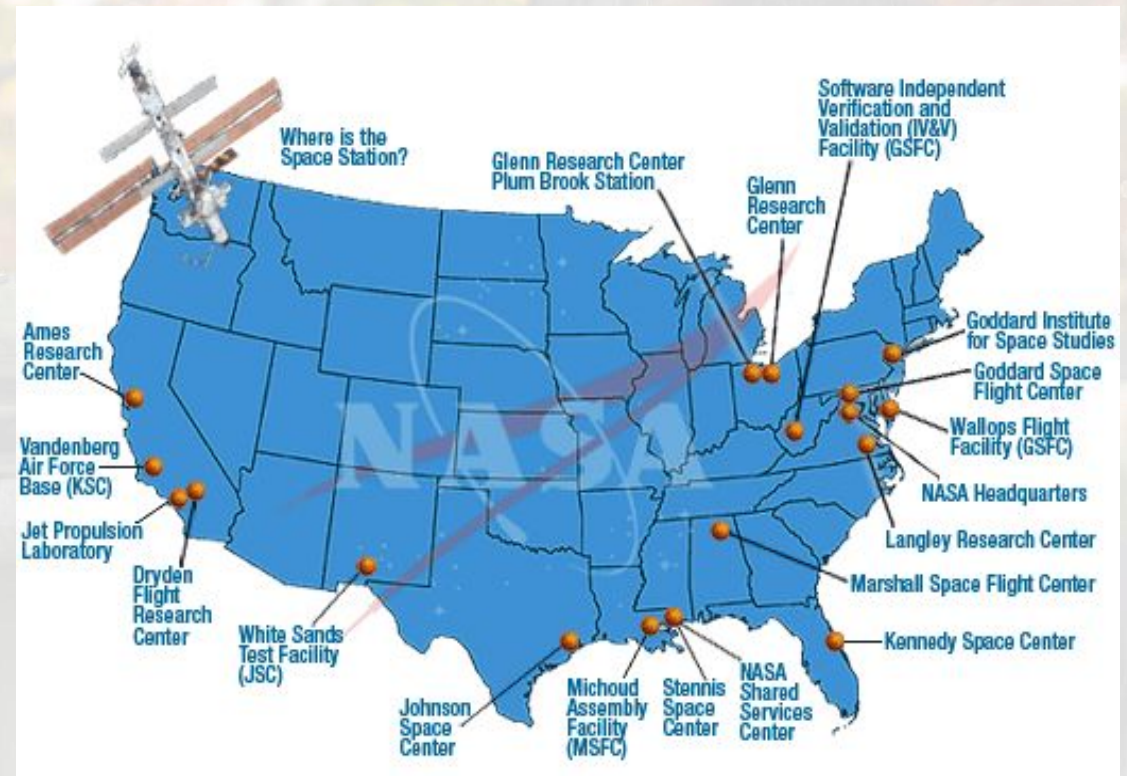
National Aeronautics and Space Administration: NASA

Internships for U.S. citizens (3.0 GPA):
fall, spring, summer → <https://intern.nasa.gov/>

International student opportunities, too!
<https://www.nasa.gov/learning-resources/internship-programs/nasa-intern-and-fellow-opportunities-for-international-students/>

10 centers employing 18,000
scientists, engineers, and
professionals.

One Application, many opportunities!
<https://nasacentral.force.com/s/>



NIST: The National Institute of Standards and Technology

Summer Undergraduate Research Fellowship ([SURF](#))

- Founded in 1901, part of the U.S. Department of Commerce.
- One of the nation's oldest physical science laboratories.
- Established by congress to create first-rate measurement infrastructure to support U.S. industrial competitiveness
- Broad scope of work on everything from the smart electric power grid and electronic health records to atomic clocks, advanced nanomaterials, and computer chips

NIST: The National Institute of Standards and Technology

- You can email researchers directly about their projects
- Don't get discouraged if applying in early years of undergrad, you are likely competing for the same spots as juniors and seniors.
- Prior experience in a lab, doing simulation, or coding is helpful
- **Apply early.** Some cap the number of applicants so they may close earlier than their expected closure date

Following your interests...Great Lakes Energy Institute

- Interdisciplinary research institute dedicated to catalyzing breakthroughs in energy sustainability that address the most pressing problems facing our world.
- **If you are interested in any of the following, please email grant.goodrich@case.edu**
 - Summer internship position
 - Global university competition to develop an energy or climate-related business concept: "Universities for SDG Goal 13 - Climate Action", look for an announcement in Mid-November (3 - 5 member student teams apply by March; selection by May → a3 teams will get mentorship support from Siemens Gamesa for a mid-July pitch competition)
 - May 20-24: The Climate Registry is bringing the **Climate Leadership Awards** to Cle. They are looking for student volunteers to help at the conference. Students will get access to the awards ceremony & events, plus meals
- Think Energy Fellows - annual program to create energy literacy across fields; applications due April
 - Connects students with faculty, companies, and investors, develop complementary competencies
 - Past student projects: built solar installations, launched startups, published policy reports, led research projects, sold clean energy credits, repaired wind turbines, attended DOE conferences, and completed a variety of energy-related internships.

Student Experiences: Salma

About me

- International student from Tunisia (small country in North Africa)
- B.S. in Computer Science (sophomore)

SURES (Summer 2023)

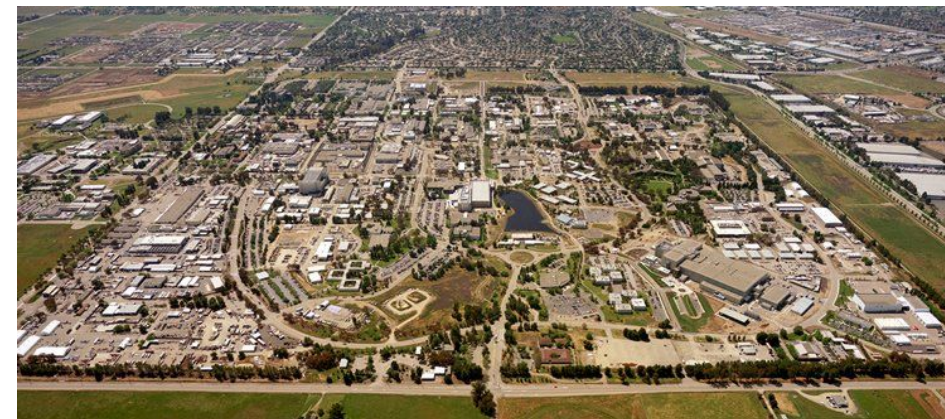
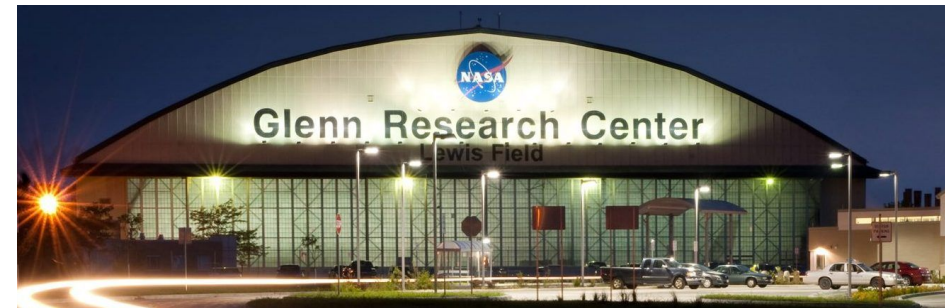
- Worked at the Solar Degradation and Lifetime Extension Center
- Interdisciplinary project: Material Science + Data Science → learned basic solar cells characteristics + Thursday sustainability-focused seminars
- Learned R and some basic plotting/data science principles
- Presented at SUNY at Buffalo Undergraduate Research Conference (Virtually)
- Advice: look for an advisor first. Then, apply.

Continued Research (Fall 2023)

- As the research project collects more data, I am working on data cleaning, visualization and modeling
- Presenting at the December Intersections 2023 with SURES peers

Student Experiences: Mirra

- SURES (Summer 2020 - Virtual)
 - Perovskite solar cells
 - Taught myself R and some data science
- NASA Glenn (Summer 2021 - Virtual)
 - Perovskite solar cells
 - Learned about devices and more data science
- LLNL (Summer 2022 - In Person)
 - Ceramic corrosion
 - Lots of new experiences
- BS/MS (Summer 2023 - Current)
 - Continuing solar project
 - Different experiences as a grad student



Summer Research – Where?

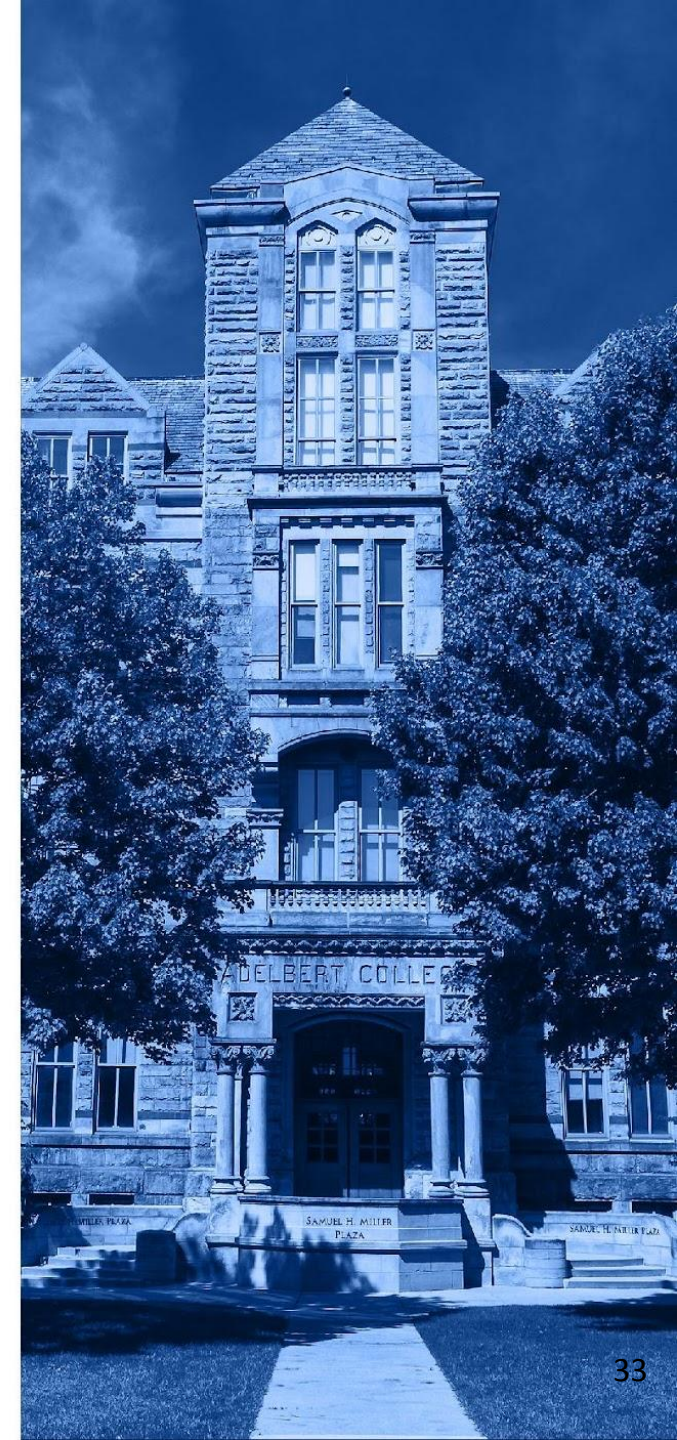
Q&A

Summer Research – How?

Pay Attention To Deadlines!

Most applications are due in January and February.
However, some are in December and a March.

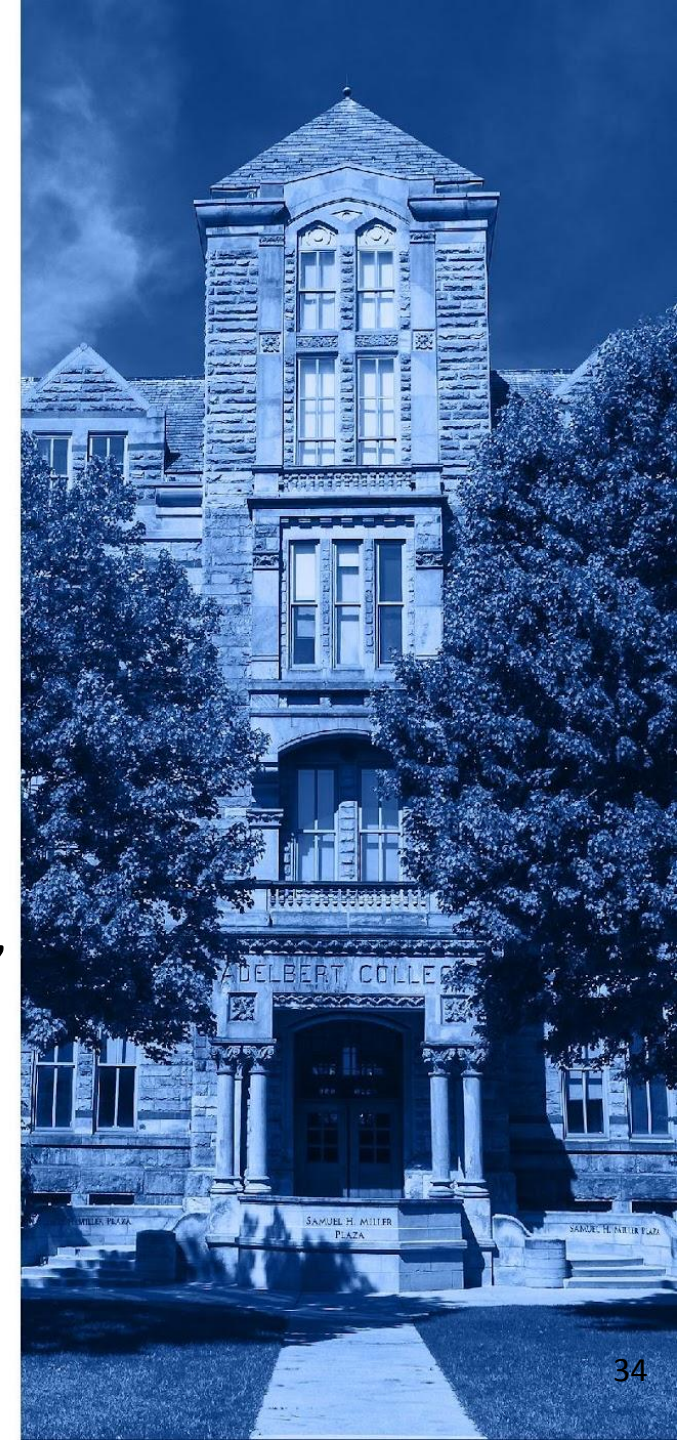
Conduct your search no later than in December during the
winter break (if not earlier).



Summer Research – How?

Typical Application Components

- Research Statement/ Essay ---motivation applying, career aspirations, etc.
- Information about Possible Projects – is provided and students are asked to identify 3-4 projects of interest
- Two letters of recommendations ---Choose appropriate references, Give references PLENTY of time and all needed information
- Transcript
- Resume

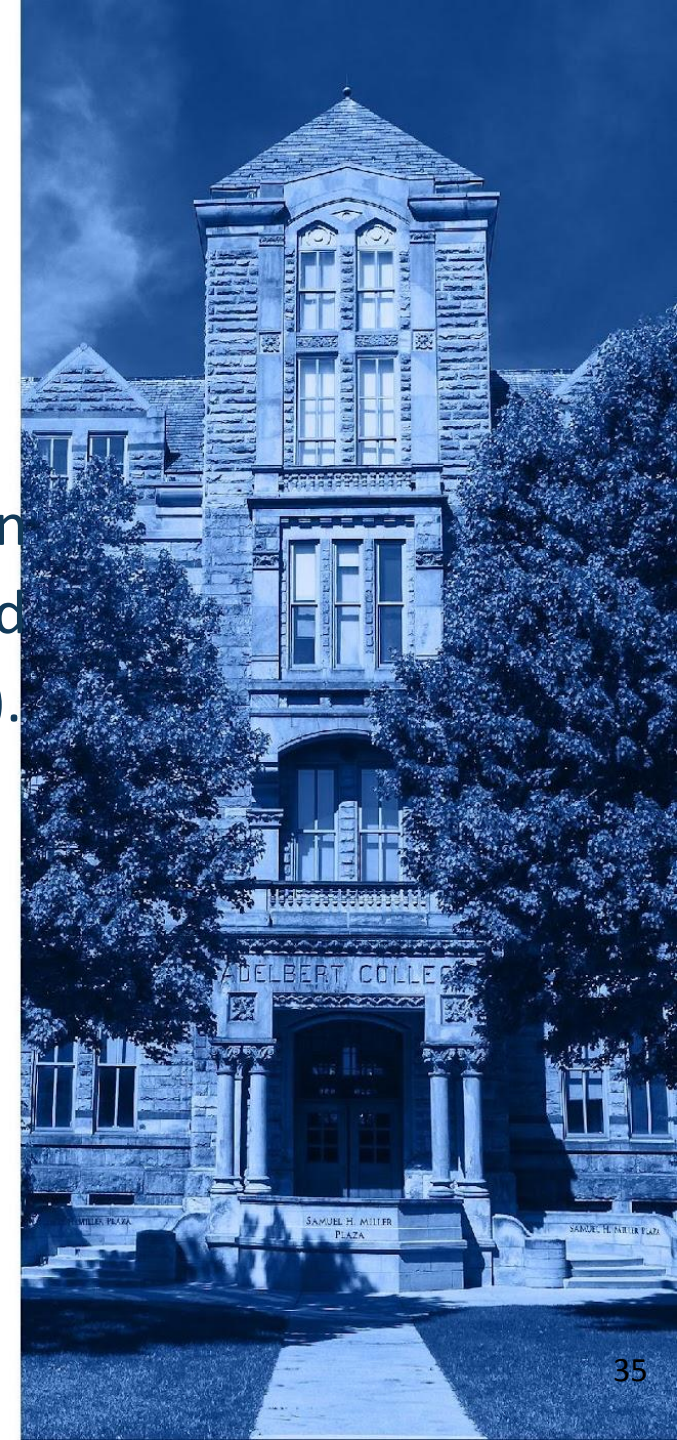


Summer Research – How?

Personal Statement/Essay

- Include all requested information (e.g. research interests/connection to your chosen projects, why you interested in this area, what experiences have stimulated your interest, skills and personal characteristics that make you a good choice, future goals).
- Requested information – use headers to make it easy for your reader to find the information that they have requested.
- Do not exceed the noted length.

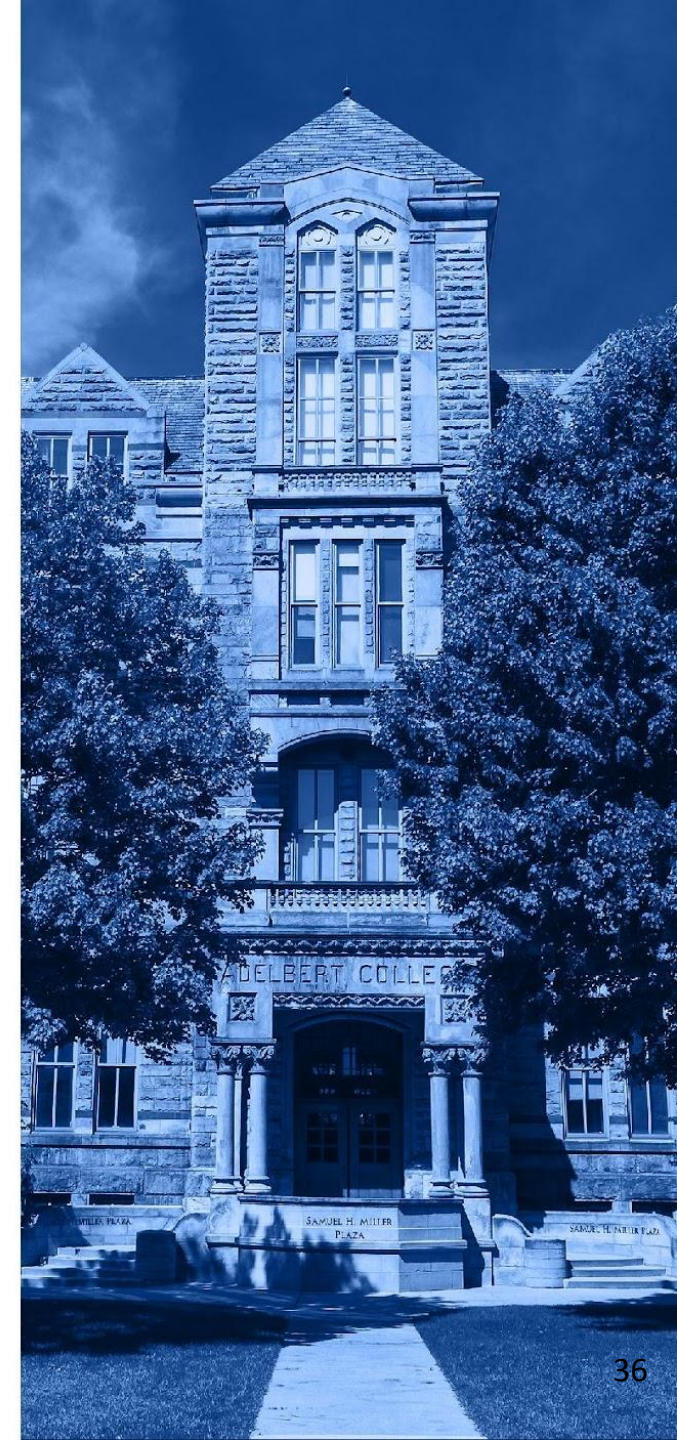
Utilize the writing center and/or SOURCE for proofing your essay.



Summer Research – How?

Working Well With Your Letter of Recommendation Writers

- Be mindful and thoughtful of your letter writers!
- Ask them (in person if possible) if they can be a positive letter writer for you.
- Most letter writers expect at least a 3-4 week notice.
- Be organized. Create an Google Sheet or Excel file that includes all the necessary information for them.
- Email them everything at once. Include your resume, research essay
- If you must add an additional program, add it to your original list and send it to them.



Summer Research – How?

Transcripts

Unofficial/Official

Resume Assistance:

Career Lab - See today's drop-in schedule:

<https://case.edu/studentlife/careercenter/career-development/career-lab>

Or Go to handshake for virtual and in-person times.

