

UNDERGRADUATE RESEARCH OPPORTUNITIES

**FOR INTERNATIONAL
STUDENTS**



GRAINGER ENGINEERING

ILLINOIS

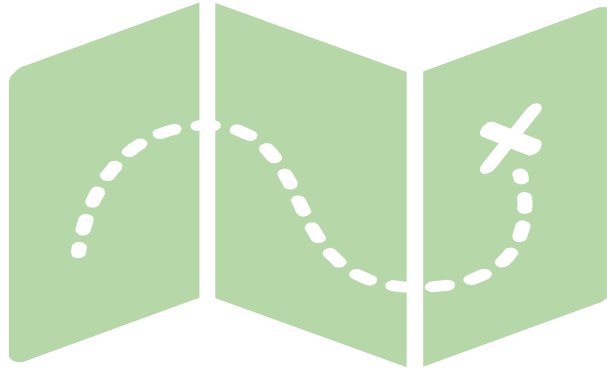
Grainger College of Engineering



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Coordinator, Undergraduate Research

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THE SEARCH BEGINS...



1.

WHERE TO START

Let's start with YOU



YOUR INTEREST FUNNEL

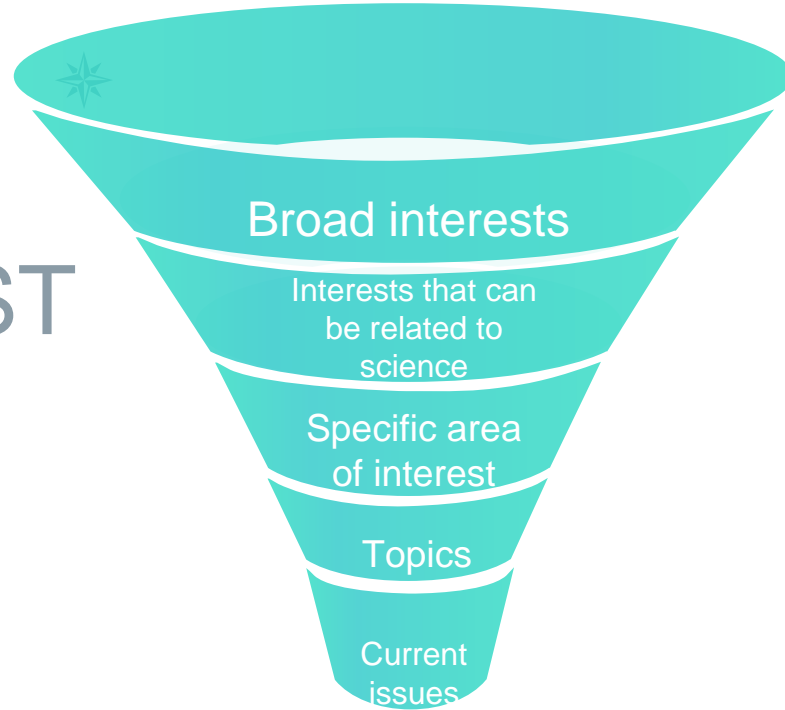


Diagram featured by <http://slidemodel.com>

YOUR INTEREST FUNNEL

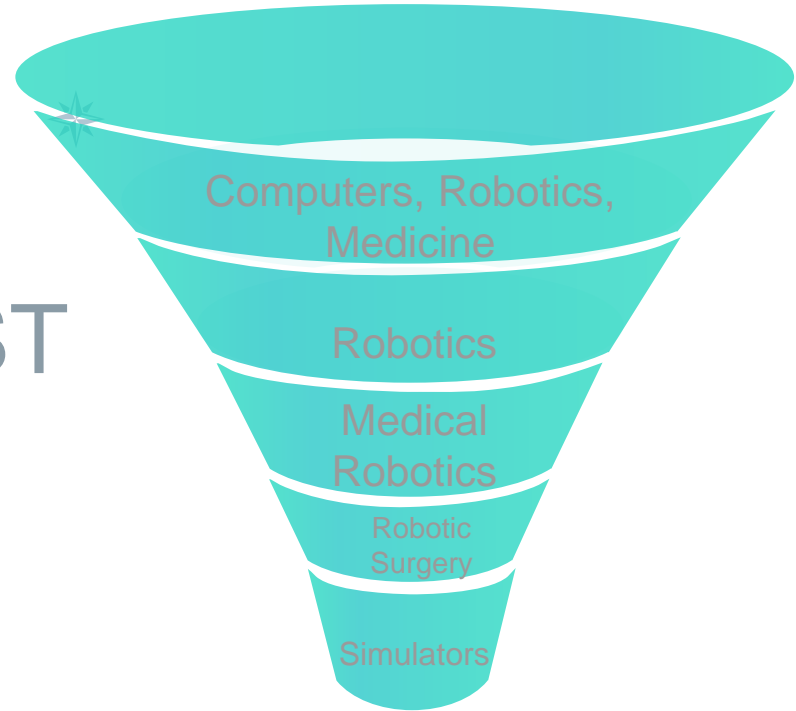


Diagram featured by <http://slidemodel.com>

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*Don't know yet what you are
interested in?*

EXPLORE!

	Applied Physics	Chemistry	Computation and Applied Math	Dynamics and Controls	Fluid Mechanics	Solid Mechanics and Materials	Thermo and Heat Transfer
N. C.							Admal*
A. G.							Alleyne
N.							Aluru
G.							Bahl
J.							Bentsman
M. Q.							Brewster
L.							Cai*
L.							Chamorro
H.							Dankowicz
G. E.							Dullerud
A. C.							Dunn
S.							Elbel
E.							Ertekin
R.							Ewoldt
I.							Feng*

A. G. Alleyne

N.	Aluru
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G. Bahl

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M. Q. Brewster

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L.	Chamorro
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H.	Dankowicz
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G. E. Dullerud

A. C. Dunn

S.	Elbel
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E.	Ertekin
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R. Ewoldt

1	Feng*
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For example, use a spreadsheet

[illegible][illegible]



2.

WHERE TO LOOK?

ON- and OFF-
CAMPUS



Learn about undergraduate research-related events and opportunities ON- and OFF- CAMPUS in the

Engineering Undergraduate Research Newsletter

ENGINEERING
RESEARCH
FAIR

Undergraduate Research
Opportunities

UGR Assistant Postings

SPRING
UNDERGRAD
RESEARCH
WORKSHOP



“

SELECT
KEYWORDS
TO GUIDE YOUR
SEARCH FOR
OPPORTUNITIES



Image credit: edns.hubspot.net

SEARCH PORTALS

STEMUndergrads.
science.gov

[PathwaystoScience.org](https://www.pathwaysto-science.org/)

NSF Research
Experiences for
Undergraduates
(REUs)





EXPLORE POSSIBILITIES!

Research Experiences for Undergraduates (REU)
Internships
Research Support Grants

3 STEPS TO EXPLORING OPPORTUNITIES



Brainstorm

What research areas would you be open to exploring that would still be related to your interests? MAKE A LIST

Plan

Set aside time to focus on your search for opportunities in the areas on your list – CHECK ELIGIBILITY CRITERIA, APPLICATION REQUIREMENTS, IMPORTANT DATES

Apply

Prioritize the opportunities according to deadlines, requirements – SEND YOUR APPLICATIONS

COLLEGE PROGRAMS YOU CAN APPLY TO



MENTORING UNDERGRADUATES IN SCIENCE AND ENGINEERING (MUSE)

- Any year level
- Whatever your mentoring needs are
- muse.engineering.illinois.edu

PROMOTING UNDERGRADUATE RESEARCH IN ENGINEERING (PURE)

- 1st or 2nd year students
- Semester long research project
- pure.engr.illinois.edu

UNDERGRADUATE RESEARCH IN ARTIFICIAL INTELLIGENCE (URAI)

- Major in computer science, electrical, computer, or industrial systems engineering
- At least junior standing based on credits (at least 60 credit hours)
- Must have taken CS 225 or equivalent course
- In good academic standing, minimum UofI GPA of 3.5

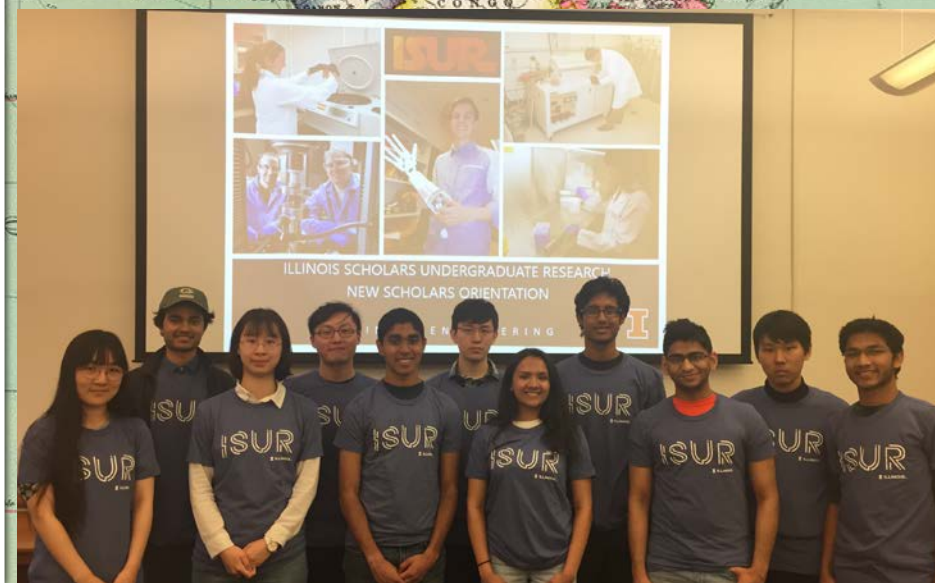


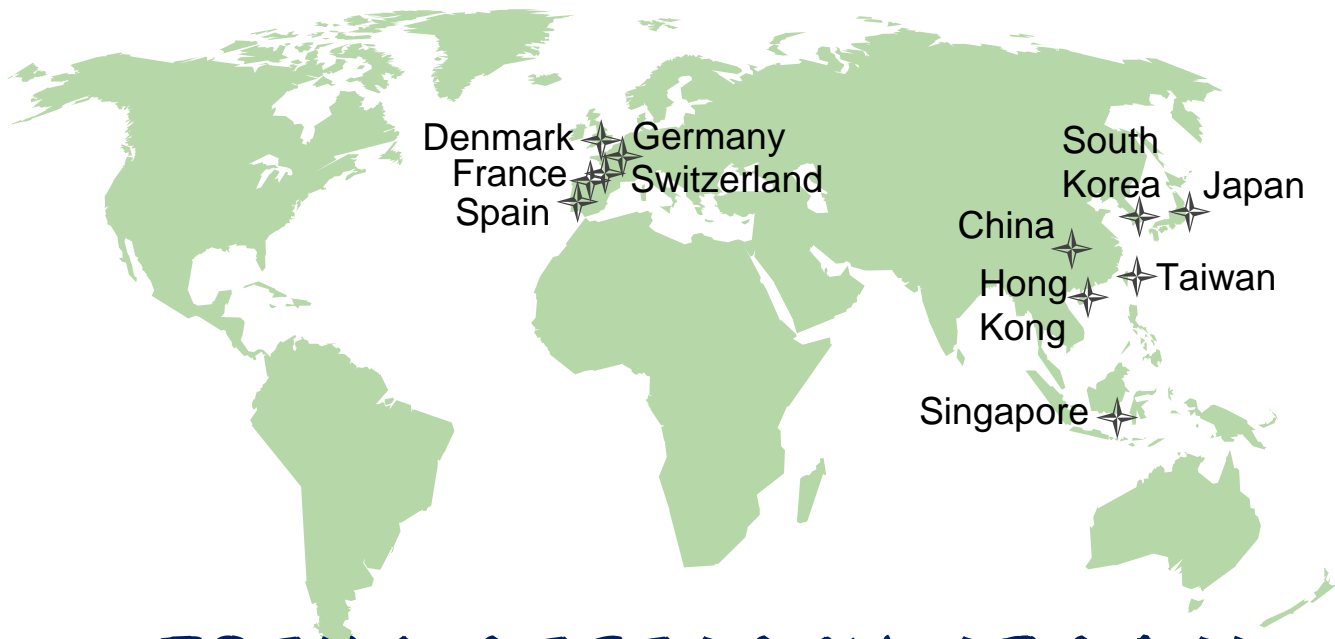
center for
cognitive computing
systems research

IBM | ILLINOIS



ILLINOIS SCHOLARS
UNDERGRADUATE RESEARCH





IPENG RESEARCH ABROAD

GLOBAL RESEARCH SCHOLARS (GRS)



- Singapore (NUS)
- Germany (Darmstadt and Munich)
- Switzerland (Lausanne)
- Minimum GPA of 3.0
- Prior research experience not required

DEADLINE TO
APPLY:
NOVEMBER

15



SOME MORE OPPORTUNITIES

- National Center for Supercomputing Applications (NCSA) Students Pushing Innovation (SPIN)
- Lee Teng Undergraduate Internship at Illinois Accelerator Institute
- Summer Internships in Science and Technology (at Fermilab)
- NASA International Internship (NASA I²) Program
- American Physical Society(APS)/IBM Research Internship for Undergraduate Women and Underrepresented Minorities
- Cold Spring Harbor Laboratory
- HHMI Janelia Undergraduate Research Scholars Program

A detailed map of Antarctica serves as the background for the entire page. It shows various islands and landmasses with labels such as 'Robertson I.', 'Larsen I.', 'Alexander I.', 'Bellingshausen', 'Cook I.', 'Knox Land', 'Budd Land', 'Gallery Id.', 'Victoria', and 'Magnetic'. The map is oriented with North at the top.**SPIN****NCSA** About SPIN Interns Mentors Apply Events

YOU + NCSA = ENDLESS POSSIBILITIES

The **National Center for Supercomputing Applications (NCSA)** needs talented, creative Illinois undergraduate students to participate in hands-on research and development projects in areas including supercomputing, data analytics, visualization, and more. NCSA's SPIN (Students Pushing Innovation) program offers paid internships to Illinois students who can contribute to challenging projects with support from members of NCSA's expert staff who act as mentors.

NCSA SPIN OPEN HOUSE

November 7, 2018

3-5 p.m.

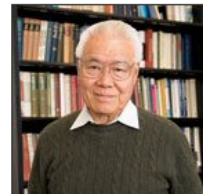
Lobby of the NCSA building

This will be an information session for Summer 2019 applicants. Snacks will be provided!

Illinois Accelerator Institute Announces the 2020 Lee Teng Undergraduate Internship

June 1 - August 7, 2020*

The Lee Teng Undergraduate Internship in Accelerator Science and Engineering has been established by the Illinois Accelerator Institute to attract undergraduate students into the exciting and challenging world of particle accelerator physics and technology.



A limited number of highly qualified students will be selected into this program. Successful candidates will attend the Summer Session of the The [U.S. Particle Accelerator School \(USPAS\)](#), to be held June 15-26, 2020, in Melville, Long Island, NY, sponsored by Stony Brook University. All will take the *Fundamentals of Accelerator Physics and Technology with Simulations and Measurements Lab* for which undergraduate credit is available. For the remainder of the summer they will work closely with a mentor and a project at either Argonne National Laboratory or Fermilab.

The program includes a generous stipend, housing, and domestic travel expenses.

Applications for the Summer 2020 session of the Lee Teng Internship will open November 1, 2019. Deadline for applications is January 6, 2020. Notification and awards are expected about February 18, 2020.

Click [here](#) for the 2019 Program website.

Click [here](#) for information on former students and projects.

Please address any questions to leetenginternship@fnal.gov.

*Alternate dates may be considered for students on the quarter system.

LEE TENG UNDERGRADUATE INTERNSHIP IN ACCELERATOR SCIENCE AND ENGINEERING



- Junior standing, outstanding sophomores may be considered
- Foreign nationals enrolled full-time at a U.S. university (must have completed all visa formalities prior to start of program)
- Must be eligible to work in the US
- Proof of identity
- Proof of medical insurance for duration of the internship

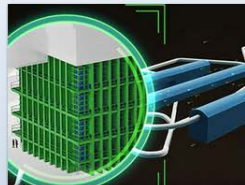
SUMMER INTERNSHIPS IN SCIENCE AND TECHNOLOGY (SIST)



- Sophomores/Juniors
- 3.0 GPA or higher
- Must be eligible to work in the US (OPT)
- Batavia, IL (45 miles west of Chicago)

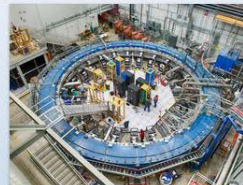


What we do



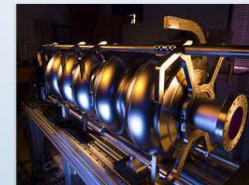
Deep Underground Neutrino Experiment

Fermilab hosts DUNE and the Long-Baseline Neutrino Facility, being built by scientists and engineers from more than 30 countries.



Particle physics

Fermilab explores the universe at the smallest and largest scales, studying the fundamental particles and forces that govern our universe.



Accelerator science and technology

Fermilab designs, builds and operates powerful accelerators to investigate nature's building blocks, advancing technology for science and society.



Detectors, computing and quantum science

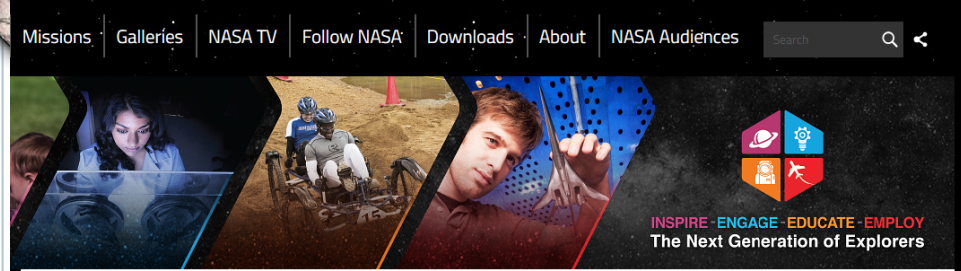
Fermilab pioneers the research and development of particle detection technology and scientific computing applications and facilities.

Application period: December 2, 2019 – February 3, 2020
Program Dates: May 18 – August 7, 2020

NASA INTERNATIONAL INTERNSHIPS PROGRAM (NASA I²)



- 3.0 GPA or higher
- Must be a citizen of countries with agreements
- Proficient in English
- High academic standing and interest in space program



NASA Intern and Fellow Opportunities for International Students

NASA International Internship (NASA I²) Program

Description: Non-U.S. interns (university undergraduate-level students) or fellows (university graduate-level students) selected to participate in the NASA I² Program will be part of a broad group of U.S. and foreign interns or fellows. This program will provide opportunities for interaction among the group in the laboratory and in more informal settings.

Internship sessions are arranged in three sessions during the calendar year (spring, summer and fall). Non-U.S. interns or fellows must participate during the same session as their U.S. counterparts in order to have a truly collaborative and integrated environment.

Current Participating Countries with Agreements:

- Australia: Victorian Space Science Education Center (VSSEC)
- Brazil: Brazilian Space Agency (AEB)
- Europe: European Space Agency (ESA) - Program on hold
- Israel: Israel Space Agency (ISA)
- Jordan: Office of the Crown Prince of Jordan
- Lithuania: Agency for Science, Innovation and Technology (MITA)
- Mexico: Mexican Space Agency (AEM)
- Portugal: Foundation for Science and Technology (FCT)
- South Africa: South African National Space Agency (SANSA)
- South Korea: Korea Aerospace Research Institute (KARI)
- Sweden: Swedish National Space Board (SNSB)
- Trinidad and Tobago: National Institute of Higher Education, Research, Science and Technology (NIHERST)
- United Arab Emirates (UAE): UAE Space Agency (UAESA)

APS/IBM RESEARCH INTERNSHIPS



➤ For UNDERGRADUATE
WOMEN

➤ For UNDERREPRESENTED
MINORITIES

- Majoring in chemistry, physics, materials science or engineering, computer science or engineering, chemical, electrical, mechanical engineering, or biology
- 3.0 GPA or higher
- No citizenship restriction
- 3 IBM locations
 - 1) Almaden (San Jose, CA)
 - 2) Austin, TX
 - 3) Watson (Yorktown Heights, NY)

COLD SPRING HARBOR LABORATORY (CSHL)



- Research Focus: Molecular Biology & Cancer, Genetics & Genomics, Neuroscience, Plant Biology, Quantitative Biology
- Near New York City



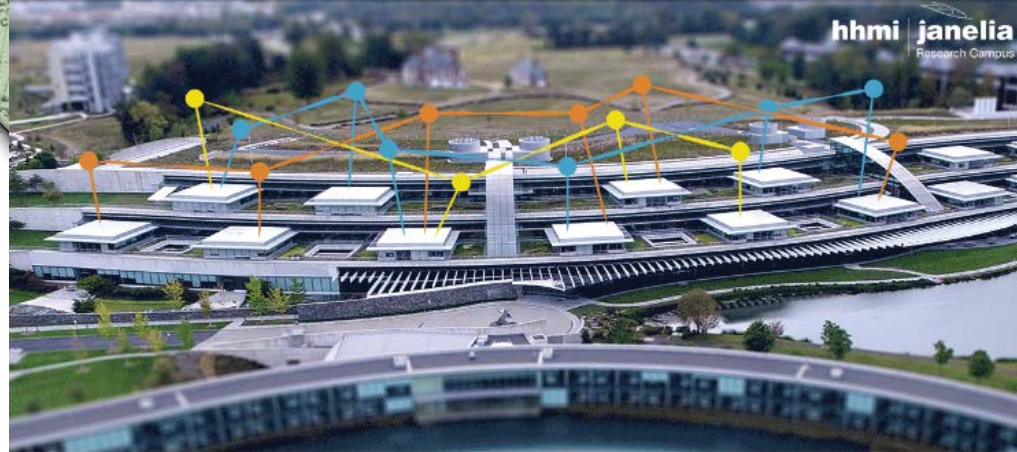
Application Deadline: January 15, 2020
Program Dates: June 10 – August 8, 2020

HHMI JANELIA UNDERGRADUATE SCHOLARS PROGRAM



Research Focus: Behavioral & Systems Neuroscience, Cellular & Molecular Neuroscience, Evolution & Genetics, Instrumentation & Computational Tool Development, Neuronal Cell Biology, Optical Physics & Imaging, Structural Biology & Biochemistry, Theory & Computational Neuroscience

- International students are eligible, and visas will be supported
- Ashburn, VA



Janelia's Multidisciplinary Approach to Understanding Neurobiology

Neurons: Connections & Environment	Imaging: Large Scale & High Resolution	Analysis: Data Mining & Modeling
CHEMISTRY GENETIC ENGINEERING CELL BIOLOGY	CHEMISTRY GENETIC ENGINEERING CELL BIOLOGY PHYSICS	MACHINE LEARNING COMPUTER SCIENCE APPLIED MATHEMATICS

Application Deadline: January 7, 2020
Program Duration: May – August 2020



MIT SUMMER RESEARCH PROGRAM (MSRP)



- MSRP Departments: School of Architecture and Planning, School of Engineering, School of Humanities, Arts, Social Sciences, Sloan School of Management, School of Science
- Explore MIT's programs before applying
- International students enrolled full-time in a degree-granting program at a US institution are eligible to apply



Program Dates: June 7 – August 8, 2020

Application Opens: November 15

Application Deadline: February 1, 2020

SUMMER UNDERGRADUATE RESEARCH FELLOWSHIPS (SURF) AT CALTECH

Eligibility for Visiting (Non-Caltech) Students on Caltech campus (excludes SURF at JPL)

- Be a continuing undergraduate student and eligible for fall term registration*
- Have a cumulative GPA of at least 2.5/4.0
- Complete the second semester or third quarter at your college or university
- Not be under any academic or disciplinary sanction

International students currently attending a college or university in the U.S. must secure special off-campus employment authorization prior to participation in SURF.

- F-1 students must apply for either Curricular Practical Training (CPT) or Optional Practical Training (OPT)
- J-1 students must apply for Academic Training

Application Deadline: February 22, 2020

STANFORD'S SUMMER UNDERGRADUATE RESEARCH IN GEOSCIENCE AND ENGINEERING (SURGE) PROGRAM



Eligibility

- Encourage applicants who are seeking a formalized research experience for the first time
- Targets rising juniors and seniors--and perhaps a few exceptional sophomores--from other universities
- Interest and potential to pursue graduate study toward a Master's or PhD degree in the Earth sciences, marine sciences, and energy resource engineering
- Be a U.S. citizen, a permanent resident, or an international student enrolled in a U.S. undergraduate institution

Program Dates: June 19 – August 15, 2020

Application Deadline: January 27, 2020

UC DAVIS PHYSICS DEPARTMENT RESEARCH EXPERIENCE FOR UNDERGRADUATES



Eligibility

- Students must be U.S. citizens or permanent residents to receive funding from our main grant from the U.S. National Science Foundation. Non-citizens can be accommodated if they do not need financial support, or if other means are available in UC Davis to support them. This may depend on the specific research group.
- Strong preference is given to students who have completed at least one year of calculus-based introductory physics.

Program Dates: June – August 2020

Application Deadline: March 1, 2020 (most likely)



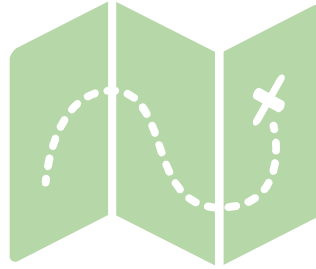
MICHIGAN STATE UNIVERSITY ENGINEERING SUMMER UNDERGRADUATE RESEARCH EXPERIENCE (ENSURE)

Eligibility

- Current undergraduate in an institution in the United States or Puerto Rico, from any institution or major
- Eligible for employment in the USA (you must have a social security card before the EnSURE program starts)
- Returning for one or more semesters of undergraduate study after Summer 2020 (i.e., not graduating before December, 2020)
- Minimum cumulative GPA of 3.20 (on a 4.0 scale)
- Not taking classes during Summer 2020 (exceptions may be made for up to 4 credits of online coursework, with permission from the faculty mentor)

Program Dates: May 18 – July 24, 2020

Application Deadline: Rolling basis, usually filled by April 1



THANK YOU!
Any questions?

You can find me at 201 Engineering Hall
Or email engr-ugr@illinois.edu