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Research Experiences for Undergraduates at NJIT & NSF

Cristo Leon

NJIT

New Jersey Institute
of Technology

Research Experiences for Undergraduates at NJIT & NSF

September 16, 2021

Presentation by:

Cristo Leon, M.B.A.

Director of Research College of Science and Liberal Arts.
Office of Research, New Jersey Institute of Technology.

*Why serving others will
help serve your self?*

Why?

Student Research
Federal
opportunities
(REU/GRFP)

Student Research
NJIT
opportunities
(URI)

Currently, Cristo is the Director of Research, CSLA at NJIT where he Manages the logistics of the College of Science and Liberal Arts research and planning programs. Assist the CSLA Dean, faculty and staff on research-related planning documents, research activities and proposal budget preparation. Help the Office of Research and Development and other entities within NJIT monitor and assist in ensuring compliance with federal, state and other governmental and NJIT regulations. Serve as staff liaison for the CSLA Dean's Office with the Office of Research and Development and with the New Jersey Innovation Institute.



Experience



Director of Research, College of Science and Liberal Arts at New Jersey Institute of Technology



Global Facilitator, Coach & Trainer at Tecnológico de Monterrey



Associate Director of e-Learning at Ocean County College



Social Media | Digital Marketing | Online Advertising at CLDM



Digital Mentor at Northern Ocean Habitat for Humanity



Executive Development & Outreach Coordinator at Tecnológico de Monterrey



Social Media Manager at Tecnológico de Monterrey



Instructional Designer & Trainer at Secretaría de Educación Pública



Director of Innovation, Instructional Design & Trainer at Universidad Veracruzana



Resident Director Xalapa, Veracruz, México at International Studies Abroad

*Why serving others will
help serve your self?*

Why's, What's and How's from an under/graduate student perspective.

1. Why is it important to do research for a student?
2. Why do you want to do research?
3. What is the importance of research for undergraduate students?
4. What is the importance of research for graduate students?
5. What is the overall purpose of research?

Why's, What's and How's from an under/graduate student perspective.

6. How to choose a subject for research?
7. Can “research” be done in fields other than yours?
8. How to know if the subject is valid enough for the research?
9. How to find professors for your research?
10. How to get a grant for your research?
11. How can research help you get a job?

Why's, What's and How's from an under/graduate student perspective.

12. Who are the right people to consult at NJIT for your research?
13. What resources to follow for research?
14. What resources does NJIT have?
15. What federal resources are there available?

NSF REU/GRFP

- Undergraduate Research
- Graduate Research Fellowship Programs

NJIT URI

- Intellectual property
- Patents

*NSF: Research
Experiences for
Undergraduates*



About 1,030,000 results (0.43 seconds)

REU - For Students | NSF - National Science Foundation

<https://www.nsf.gov/crssprgm/reu/> ▼

NSF funds a large number of research opportunities for undergraduate students through its REU Sites program. An REU Site consists of a group of ten or so undergraduates who work in the research programs of the host institution. Each student is associated with a specific research project, where he/she works closely with ...

[Research Experiences for ...](#) · [For Faculty](#) · [REU Site Contacts](#)

Research Experiences for Undergraduates | NSF - National Science ...

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517 ▼

The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically ...

Special Programs for Undergraduate Students | NSF - National ...

https://www.nsf.gov/funding/education.jsp?fund_type=1 ▼

The following programs provide either direct (i.e., from NSF) or indirect (i.e., from an awardee institution) funding for students at this level or identify programs that focus on educational developments for this group such as curricula development, training or retention. [Advanced Technological Education](#) · [Arctic Research](#) ...

Search for an REU Site | NSF - National Science Foundation

https://www.nsf.gov/crssprgm/reu/reu_search.cfm ▼

[Research Experiences for Undergraduates \(REU\)](#). [REU Program Overview](#) · [Program Solicitation](#); [Search for an REU Site](#); [For Students](#) · [For Faculty](#) · [REU Contacts](#) · [REU Site Awards Guidelines for Reporting](#) · [Home](#) · [Email Print Share](#). [Search for an REU Site](#). [Astronomical Sciences](#) · [Atmospheric and Geospace Sciences](#) ...



Research Experiences for Undergraduates (REU)

REU Program Overview

Program Solicitation

For Students

Search for an REU Site

For Faculty

REU Contacts

REU Site Awards Guidelines for Reporting

Home > Research Areas

Email Print Share

For Students

NSF funds a large number of research opportunities for undergraduate students through its REU Sites program. An REU Site consists of a group of ten or so undergraduates who work in the research programs of the host institution. Each student is associated with a specific research project, where he/she works closely with the faculty and other researchers. Students are granted stipends and, in many cases, assistance with housing and travel. Undergraduate students supported with NSF funds must be citizens or permanent residents of the United States or its possessions. An REU Site may be at either a US or foreign location.

By using the web page, [Search for an REU Site](#), you may examine opportunities in the subject areas supported by various NSF units. Also, you may search by keywords to identify sites in particular research areas or with certain features, such as a particular location.

Students must contact the individual sites for information and application materials. NSF does not have application materials and does not select student participants. A contact person and contact information is listed for each site

NSF. (2015). For Students. USA. Retrieved from

<https://www.nsf.gov/crssprgm/reu/>



Document Library

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Engineering Statistics (NCSES)

Obtaining Documents

Search Documents

Home > Document Library



Research Experiences for Undergraduates (REU)

Available Formats: [HTML](#) | [PDF](#) | [TXT](#)

Document Type: Program Announcements & Information [View Program Page](#)

Document Number: nsf13542

Document History: Posted: February 22, 2013. Replaces: [nsf12569](#).

For more information about file formats used on the NSF site, please see the [Plug-ins and Viewers](#) page.



NSF. (2015). Research Experiences for Undergraduates (REU)
. USA. Retrieved from
https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=5517&ods_key=nsf13542



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Preparing Proposals

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Small Business

Transformative Research

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NSF-wide

Research Experiences for Undergraduates (REU) N

NOTE ON THE PROPOSAL DEADLINE FOR REU SITES

Two due dates are listed for REU Site proposals each year. The May deadline applies *only* to REU Site proposals that require access to Antarctica, which must be submitted to the Division of Polar Programs (PLR) in the Directorate for Geosciences (GEO). **The fall deadline (fourth Wednesday in August) applies to all other REU Site proposals.**

CONTACTS

NSF REU Site Contacts: http://www.nsf.gov/crssprgm/reu/reu_contacts.jsp

PROGRAM GUIDELINES

Solicitation [13-542](#)

Important Information for Proposers

***ATTENTION:** Proposers using the Collaborators and Other Affiliations template for more than 10 senior project personnel will encounter proposal print preview issues. Please see the [Collaborators and Other Affiliations Information website](#) for updated guidance.*

NSF. (2018). Research Experiences for Undergraduates (REU). Program page. USA. Retrieved from https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517

SYNOPSIS

The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. This solicitation features two mechanisms for support of student research: (1) *REU Sites* are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU Sites may be based in a single discipline or academic department or may offer interdisciplinary or multi-department research opportunities with a coherent intellectual theme. Proposals with an international dimension are welcome. (2) *REU Supplements* may be included as a component of proposals for new or renewal NSF grants or cooperative agreements or may be requested for ongoing NSF-funded research projects.

Undergraduate student participants in either REU Sites or REU Supplements must be U.S. citizens, U.S. nationals, or permanent residents of the United States.

Students do not apply to NSF to participate in REU activities. Students apply directly to REU Sites or to NSF-funded investigators who receive REU Supplements. To identify appropriate REU Sites, students should consult the directory of active REU Sites on the Web at http://www.nsf.gov/crssprgm/reu/reu_search.cfm.

SYNOPSIS

Students do not apply to NSF to participate in REU activities. Students apply directly to REU Sites or to NSF-funded investigators who receive REU Supplements. To identify appropriate REU Sites, students should consult the directory of active REU Sites on the Web at http://www.nsf.gov/crssprgm/reu/reu_search.cfm.

Search Results for REU Sites

All results for: new jersey institute

[Search Again](#)

Export results: [CSV](#) | [Excel](#) | [XML](#)

Showing 1 to 2 of 2

Site Information	Site Location	Contact Information	Additional Information
New Jersey Institute of Technology Undergraduate Research in Computational Data Analytics for Advancing Human Systems Information Systems Department	Newark, New Jersey	Primary: Songhua Xu (973) 596-5815 songhua.xu@njit.edu Secondary: Lian Duan (516) 463-4220 lian.duan@hofstra.edu	Research Topics/Keywords: Environmental cancer risk study, adverse drug reaction detection, personalized coupon in super markets, technology and psychological well-being, personalized education system Abstract of Award
New Jersey Institute of Technology REU Site: Optics and Photonics: Technologies, Systems, and Devices Electrical & Computer Engineering	Newark, New Jersey	Primary: Abdallah Khreishah (973) 596-3528 abdallah@njit.edu Secondary: Durga Misra (973) 596-5739 dmisra@njit.edu	Research Topics/Keywords: optics, photonics, optical communications, visible light communications, LEDs, optical coherence tomography, fiber optics for biomedical applications Comments: Keywords (continued) optical image processing, nanostructures for optoelectronics Abstract of Award

*NSF: Graduate
Research Fellowship
Program*



Search...

2022 Application is Open for Submission

What is GRFP?

- [Benefits](#)
- [Am I Eligible?](#)
- [FAQ's](#)

The NSF GRFP recognizes and supports outstanding graduate students in NSF-supported STEM disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The five-year fellowship includes three years of financial support including an annual stipend of \$34,000 and a cost of education allowance of \$12,000 to the institution.

[Learn More »](#)

Applicants

GRFP welcomes applications from individuals who are pursuing full-time research-based master's and doctoral degrees in science, technology, engineering, and mathematics (STEM) or in STEM Education and who meet the eligibility requirements.

- [Am I Eligible?](#)
- [FAQ's](#)

Reference Writers

Reference letters are a key component of a strong GRFP application package. The most effective reference letters provide detailed and specific information about how an applicant meets the NSF Merit Review Criteria of Intellectual Merit and Broader Impacts.

- [Requirements](#)
- [FAQ's](#)

Reviewers

NSF welcomes scientists and engineers to serve as reviewers of GRFP applications. Serving as a GRFP Reviewer is an excellent opportunity to apply your research and career expertise to help identify future science and engineering leaders. *Reviewer registration is now Open*

- [Register Here](#)
- [FAQ's](#)

NSF GRFP. (2021). Graduate Research Fellowship Program. *NSF Graduate Research Fellowships Program (GRFP).*
<https://www.nsfgrfp.org/>

SYNOPSIS

The NSF GRFP recognizes and supports outstanding graduate students in NSF-supported STEM disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The five-year fellowship includes three years of financial support including an annual stipend of \$34,000 and a cost of education allowance of \$12,000 (Tuition) to the institution.

*NJIT's "Undergraduate
Research and
Innovation (URI)
Program"*

Intellectual property

Welcome

URI Home

URI Advisory Board
Members

About Undergraduate
Research &
Innovation (URI)

URI Challenge

URI Programs

Networking,
Internships and
Competitions

Research and
Innovation Courses

Minor in Innovation and
Entrepreneurship

Students and Projects

News

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Contact Us

Submit your Innovative
Idea

Welcome

Undergraduate Research and Innovation (URI) Program

URI programs give students a chance to flourish in various ways. Students learn how to do research, but also how to pick projects that will improve a societal problem and enhance the quality of life for a community of people. These programs are designed to help students develop the vision to contend with global challenges.

To teach students to think like that, a program must be inter-disciplinary, and URI programs do that by inviting students from all majors, such as design, engineering, business, humanities or science. The students form teams and pool their talents. These days, in both industry and academia, projects are done by teams. URI students divide into teams who are mentored by both NJIT professor and industry advisers. Working together, the teams try to find solutions to societal problems and to develop technologies to ameliorate those problems.

Higher education experts agree that the best experience an undergraduate can have is research. For it is research that allows student to apply the theory they learned in their classes and use their hands and minds to design, build, invent and engineer devices and processes that improve society.

In 2018, more than 140 undergraduate students, involving 70 faculty advisors, showcased their research projects on e-posters at the exciting Summer Symposium. With over 340 attendees, the International Undergraduate Summer Research Symposium continues to be one of NJIT's largest student events.

Donate Now

for The Brian G. Kiernan
'70 URI Challenge
on Student Research
Support



NJIT. (2019). Undergraduate Research and Innovation (URI).
USA. Retrieved from <http://centers.njit.edu/uri/>

Call for Proposals

Undergraduate Research and Innovation

(URI)

Student Seed Grants Program: Fall 2021

Proposer Day Workshop (Required)

Hosted by URI External Advisory Board Members

(Information Session on Proposal Writing, Review Criterion and Submission)

September 21, 2021; 11.30 AM to 1.30 PM

Atrium, Student Campus Center

(Light lunch will be served with the NJIT Chapter Meeting of the National Academy of Inventors (NAI) and NAI Student Inventor Club)

Call for Proposals Undergraduate Research and Innovation (URI) Student Seed Grants Program: Fall 2021

Proposal Submission Deadline: October 15, 2021

URI Workshop for Student Proposal Presentations:
October 28, 2021; 2.00 PM – 5.30 PM; Ballroom A, Campus Center

URI Programs

[URI Home](#)

[URI Advisory Board Members](#)

[About Undergraduate Research & Innovation \(URI\)](#)

[URI Challenge](#)

[URI Programs](#)

[International Programs](#)

[McNair Program](#)

[NEURO-eEngineering Program](#)

[NJ Space Grant Consortium Summer Research Program](#)

[NSF Innovation Corps \(I-Corps™\)](#)

[NSF REU: EXTREEMS-QED](#)

[Provost Summer Research Fellowships](#)

[Senior Capstone Design Program](#)

NJIT offers several undergraduate research, innovation and design programs including McNair Research Fellowships, Provost Undergraduate Summer Research, URI Student Seed Grant, and New Jersey Innovation Acceleration, and several capstone design programs across NJIT colleges. Several competitions, such as TechQuest, focusing on innovation, research and design within and across disciplines have been developed that are offered annually promote undergraduate research and innovation, and to educate our undergraduate students on how to take future leadership roles and be highly competitive in the global market.



[Quick Links](#)

New for Fall 2019!

[Call for Proposals for URI Student Seed Grants](#)

[Research Proposal Guidelines and Templates](#)

[PROPOSAL APPLICATION LINK](#)

[Research and Innovation Tracks with General Guidelines on Market Assessment or Project Research](#)

[Sample of a Market Research Survey \(as mentioned in above document\)](#)

[Summer Research Symposium Program and](#)

NJIT. (2019). URI Programs. USA. Retrieved from <https://centers.njit.edu/uri/programs/index.php>

(URI) Student Seed Grants Phase I

Phase-1 Student Seed Grants: \$500

Track-1: Technology/Product Development
and Innovation

Track-2: Application Based Research

Spring 2017 URI Phase-1 Student Seed Grant Winners

Name (Bold denotes team leader)	Research Project	Faculty Advisor
Lauren Hutnik (Biology) Ayushi Sangoi (BME)	Applying Acoustophoresis via Novel Surface Textures to Separate Mixtures	Camelia Prodan (Physics) Kyle Dobiszewski (Honors)
Niyam Shah (CE) Hollins Justin Jose (ME)	Can we use spiky sweet gum seeds as bio adsorbents for the removal of water contaminants?	Wen Zhang (CEE)
Jaasrini Reddy Vellore (BME)	The effect of rate on emotionality perception with cochlear implants	Antje Ihlefeld (BME)
Luiz Leao III (Theater)	Virtual Reality Filmmaking	Louis Wells (Theatre)

NJIT. (2018). Spring 2017 Student Seed Grant Winners. USA. Retrieved from <http://centers.njit.edu/uri/content/spring-2017%E2%80%8B-student-seed-grant-winners/>

(URI) Student Seed Grants Phase II

Phase-2 Student Seed Grants: \$3,000

Track-2 ONLY: Application Based Research

Spring 2017 URI Phase-2 Student Seed Grant Winners

Name (Bold denotes team leader)	Research Project	Faculty Advisor
Ayesha Ali (BME)	The Fabrication of a Novel Carbon Fiber Microelectrode for Interfacing with the Brain	Mesut Sahin (BME)
Richard Ching (IT) , Timothy Dijamco (CS), Daniel H. Wang (Bio)	Integrated Intelligence Modeling: A Smart Course Scheduling Application	Songhua Xu (IS)
Olivia Hadlaw (EE) , Matthew Shpiruk (EE), Sergio Hernandez (ME), Iain Morrison (ME)	PiezoElectric Energy Harvesting Tires for Bots	Vivek Kumar (BME), Kyle Dobiszewski (Honors)
Shawn Huynh (ChE) and Tej Patel (ChE)	Hybrid 3D printer for fabrication of scaffolds with multi-scale complexity	Murat Guvendiren (BME)
Patricia Iglesias-Montoro (BME)	Peptide Hydrogels for Neural Regeneration	Vivek Kumar (BME)
Mariana Kelliny (ChE) Joe Khoneisser (BME)	Bone Defect Repair with Injectable Hydrogel System Incorporated with Growth Factors	Xiaoyang Xu (CBPE)
Faizur Piuli (BME)	Engineered Human Myocardium Tissue Models	Murat Guvendiren (CBPE) Eun Jung Lee (BME)
Matthew Reda (ME)	SnoBot: Autonomous Snow Removal	Cesar Bandera (SOM)

NJIT. (2018). Spring 2017 Student Seed Grant Winners. USA. Retrieved from <http://centers.njit.edu/uri/content/spring-2017%E2%80%8B-student-seed-grant-winners/>

(URI) Student Seed Grant Program

Tracks:

**Track-1 Technology/Product Development
and Innovation**

Track-2: Application Based Research

PDW (Required) / Information
session Sep 21, 2021 11:30
AM PM to 1:30 PM; Atrium,
Student Campus Center.

Proposal Submission
Deadline: October 15, 2021

Answers!

NJIT

New Jersey Institute of Technology

COLLEGE OF SCIENCE & LIBERAL ARTS

Why's, What's and How's from a graduate student perspective.

1. Why is it important to do research for a student?
2. Why do you want to do research?
3. What is the importance of research for undergraduate students?
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Why's, What's and How's from a graduate student perspective.

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13. What resources to follow for research?

14. What resources does NJIT have?

15. What federal resources are there available?

WHY?



How?



What?

Sources

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- National Science Foundation. (2018a, February 7). Chemistry Research Experiences for Undergraduates PD-08-1986. Retrieved February 7, 2018, from <https://www.grants.gov/web/grants/search-grants.html?keywords=Research%20Experiences%20for%20Undergraduates>
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- NJIT URI. (2018, February 7). Undergraduate Research and Innovation. Retrieved February 7, 2018, from <http://centers.njit.edu/uri/>
- NSF. (2017, September). 27 new NSF INCLUDES awards aim to enhance U.S. science and engineering enterprise [News Release 17-084]. Retrieved September 12, 2017, from https://www.nsf.gov/news/news_images.jsp?cntn_id=243055&org=NSF

NJIT

The logo for NJIT (New Jersey Institute of Technology) features the letters 'NJIT' in a white, serif font. A thick, white, curved line sweeps underneath the letters, starting from the bottom left and ending at the bottom right, creating a dynamic, upward-sloping underline.