Engineering Institute
LANL•UCSD

Los Alamos
NATIONAL LABORATORY
EST.1943

THE 22nd LOS ALAMOS DYNAMICS SUMMERSCHOOL

June 7 – August 13, 2021
ladss.lanl.gov

Applications accepted beginning Oct. 1, 2020
Deadline: Jan. 11, 2021
Questions/inquiries email: ladss@lanl.gov
Document submission email: ladss@lanl.gov

Acceptance notifications sent Jan. 22, 2021
Contact: Yvonne John, **ladss@lanl.gov**

We are currently soliciting US Citizen applicants for the 21st Los Alamos Dynamics Summer School.

The Los Alamos Dynamics Summer School (LADSS) focuses a select group of students on the multi-disciplinary field of dynamics, spanning electrical, mechanical, structural and cyber-physical systems. The students' research will be applied to creating solutions to Los Alamos National Laboratory (LANL) mission-relevant problems defined by LANL R&D engineers and scientists. In addition to this research component, the LADSS also offers formal technical and career–development tutorials. LADSS is a paid summer internship.*

**Cyber-physical systems are defined by the National Science Foundation as "engineered systems that are built from, and depend upon, the seamless integration of computational algorithms and physical components"*

HOW TO APPLY

Students should download the application form and demographic forms from our website, https://ladss.lanl.gov. Then email the following documents to ladss@lanl.gov.

1. Application form
2. Resume
3. One-page cover letter describing your interest in this summer school and multi-disciplinary dynamic systems research as well as your near term (1-3 year) academic and professional goals
4. Complete transcripts
5. At least one letter of recommendation
6. OPTIONAL – Demographic self-identification forms

PROJECTS

The students will be placed into 3-person multi-disciplinary teams, assigned a research activity to be completed in an intense 10-week time frame, and partnered with a LANL staff members as a mentors. The projects typically have a modeling, experimental, and analysis component. The goal is for the students to produce results and document their activities in a manner suitable for reporting at professional conferences. The students will prepare a paper for and present their research results at an international conference taking place the following winter.

TUTORIALS

Students participate in weekly tutorials on various aspects of dynamic system engineering and cyber-physical systems such as signal processing, modeling dynamic systems, system identification, embedded systems, model validation, nonlinear systems, and machine learning. In most cases the students will apply the material presented in these tutorials to their respective projects.

In addition to the research-focused tutorials, students are presented with professional development lectures that include applying to graduate school and applying for graduate fellowships. Over the past eighteen years, 62 LADSS alumni have competed for and won highly competitive and prestigious National Science Foundation and National Defense graduate fellowships.

STUDENTS

The program is designed for 21 upper-division (rising senior) undergraduate students to first-year graduate students.** High-quality students from diverse academic and cultural backgrounds are sought to participate. Acceptance into the program is based on academic record and letters of recommendation. As a general guideline, students should have sufficient academic achievement that they are, or will be, eligible for graduate school. A variety of academic disciplines are being sought, including computer science, aerospace / mechanical / nuclear / electrical / civil engineering, and mathematics / statistics.

In lieu of salaries, the students will be provided with a fellowship that is intended to also cover relocation and housing expenses. Fellowship amounts range from $7,500 to $11,500, depending on academic status (see https://www.lanl.gov/careers/career-options/student-internships/_assets/docs/salary-structure.pdf) and the point of origin for the student's travel to LANL. Reimbursement of travel costs for the subsequent conference presentation is also provided.

***** This program is limited to US citizens.***

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