



FRR: Foundational Research
in Robotics | PD 20-144Y



FRR: Foundational Research in Robotics

- New core program announced February 2020
- Jointly managed by the Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE)
- Accepts CAREER proposals annually in July
- Accepts unsolicited proposals **any time**

- All proposals are handled as part of a **single unified program**, irrespective of the division that initially receives the proposal.



FRR: What is a Robot?

For the purposes of this program, a robot is defined as **intelligence** embodied in an **engineered construct**.

- Here **intelligence** includes a broad class of methods to process information that enable a robot to solve problems or make contextually appropriate decisions.
- Here an **engineered construct** exhibits appropriate levels of physical complexity to enable the robot to sense and move within, or substantially alter, its working environment.

Projects may focus on a distinct aspect of intelligence, computation, or embodiment; research is encouraged that considers inextricably interwoven questions of intelligence, computation, and embodiment.



FRR: What is Foundational Research?

The focus of the FRR program is on **foundational advances** in robotics.

- All proposals must convincingly explain how a successful outcome will **enable transformative new** robot functionality or **substantially enhance** existing robot functionality.
- Meaningful experimental validation on a physical platform is strongly encouraged.

The proposal should clearly articulate how the intellectual contribution of the proposed work addresses **fundamental gaps in robotics**.



FRR: What is responsive?

Is there a **robot**?

- The focus of the project should be a robot or a class of robots as defined in the program description.

Will a robot gain a **new** or **significantly improved** capability?

- Over the course of project a robot or class of robots should gain new and useful abilities or significantly improve on existing abilities.

Is robotics **essential** to the *intellectual merit* of the proposal?

- Robotics should be the intellectual merit (not just broader impact) of the proposed work. Robotics should be essential to the project, and not just a convenient platform to demonstrate the research results. Choosing an application other than robotics for the project should significantly reduce its impact.



FRR: What is the budget?

- The Robotics program does not have any explicit budget or duration limits, however the proposal must convincingly articulate that the requested budget is commensurate with the scope and potential contribution of the project.
- Typical projects are approximately \$150K per year.
- Typical unsolicited projects are a 3-4 year. We do not explicitly exclude proposals with higher budgets and/or up to 5-year duration.
- CAREER proposals are always 5-year duration.
- For budget questions related to other types of proposals (e.g., EAGER, RAPID, conference) PIs should contact a Program Director (robotics@nsf.gov) in advance of a submission.



Questions?

contact robotics@nsf.gov

