



National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

NSF 16-123

Dear Colleague Letter: Supporting Fundamental Research in Unmanned Aerial Systems (UAS)

August 8, 2016

Dear Colleagues,

With this Dear Colleague Letter (DCL), the National Science Foundation's (NSF) Directorates for Computer and Information Science and Engineering (CISE) and Engineering (ENG) announce their intention to support, foster, and accelerate fundamental research that advances the positive use of Unmanned Aerial Systems (UAS) to save lives, increase safety and efficiency, and enable more effective science and engineering research. These research investments will be made through existing CISE and ENG core and crosscutting research programs.

NSF-funded advancements are enabling a wide variety of beneficial applications of UAS in areas such as monitoring and inspection of physical infrastructure, prevention of airport bird strikes, smart emergency/disaster response, natural gas leak detection, agriculture support, personal services, and observation and study of weather phenomena including severe storms. These advances are made possible through fundamental investments in theoretical principles of UAS, including intelligent sensing, perception, and control; estimation; communications; collaboration and teaming; UAS adaptation and learning; human-UAS interaction; and safety, security, and privacy of UAS. These novel fundamental approaches enable increased understanding of how to intelligently and effectively design, control, and apply UAS to beneficial applications.

NSF welcomes proposals that accelerate fundamental technological advances in UAS; these proposals should be submitted to existing CISE and ENG core and crosscutting research programs, following all proposal preparation instructions specified in the corresponding program announcements and solicitations. All proposals must meet the requirements of NSF's *Grant Proposal Guide (GPG)*, along with any program- or solicitation-specific proposal preparation instructions and review criteria. Proposals must be synergistic with the goals of the programs to which they are submitted.

For further information, interested PIs may contact:

- Dr. Reid Simmons, CISE/IIS, Program Director, at resimmon@nsf.gov; and
- Dr. Jordan M. Berg, ENG/CMMI, Program Director, at jberg@nsf.gov.

Sincerely,

Jim Kurose
Assistant Director, CISE

Grace Wang
Acting Assistant Director, ENG