

**DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE NEW MEXICO
AFRL RV/RD University Assistance Instrument Program
Funding Opportunity Announcement (FOA)**

FUNDING OPPORTUNITY NUMBER: RDK-RAD-FOA-2024

FUNDING OPPORTUNITY ANNOUNCEMENT TITLE: Research and Development (RAD) Directed Energy (RD) University Assistance Instruments

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBER(S): 12.800 Air Force Defense Research Sciences Program

FEDERAL AGENCY NAME: Air Force Research Laboratory (AFRL) Directed Energy (RD) Directorates; Kirtland AFB, NM

Announcement Type and Key Dates:

Announcement Type	Key Dates and Times
FOA Issue Date	JULY 18, 2024, 4:00 PM Eastern Standard Time
FOA AMEND I Issue Date	JULY 19, 2024, 12:00 PM Eastern Standard Time
FOA AMEND II Issue Date	JULY 29, 2024, 2:00 PM Eastern Standard Time
FOA AMEND III Issue Date	DECEMBER 03, 2024, 2:00PM Eastern Standard Time
FOA AMEND IV Issue Date	MAY 06, 2026, 3:30PM Eastern Standard Time
Final Submission Deadline for Letters of Intent	JULY 18, 2029, 4:00 PM Eastern Standard Time

INTRODUCTION: This is a five-year open Funding Opportunity Announcement (FOA) accepting Letters of Intent from the date of publication for award of grants and cooperative agreement assistance instruments, with a ceiling of \$49M. Once the announcement has reached the end of the 5-year period, or ceiling has been met prior to the 5-year period, the announcement will be closed.

This FOA has a two-part application process starting with a MANDATORY Letter of Intent, and then a full application if letter of intent is selected. Only invited applicants will be eligible to submit a full application. Letters of intent may be submitted at any time during this 5-year period and are evaluated as they are received. Prior to submitting a full application, Recipients are required to submit a Letter of Intent through the Valid Eval Portal at https://usg.valideval.com/teams/afrl_rad/signup. DO NOT submit a full application at the same time of submitting the mandatory Letter of Intent, prematurely submitting applications before being notified that your letter of intent was selected will result in the application not being evaluated. Should a full application be requested, the interested party must submit electronically through the Valid Eval portal at https://usg.valideval.com/teams/afrl_rad/signup. No hard copy

submissions will be accepted.

This FOA will be evaluated on an annual basis. It is the applicant's responsibility to periodically check this FOA for any amendments that may modify the announcement, as amendments can happen at any time. Amendments to the original funding opportunity announcement (FOA) will be posted to the Grants.gov Webpage: <https://www.grants.gov/>.

BACKGROUND: The Air Force Research Laboratory Directed Energy Directorate (RD) is the Department of the Air Force's Center of Expertise for directed energy and optical technologies. The Directorate develops and transitions technologies in four core technical competencies: Laser Systems, Directed Energy and Electro-Optics for Space Superiority, High Power Electromagnetics, and Weapons Modeling, Simulation, and Analysis. This five-year, open FOA is for soliciting research applications for Basic, Applied, and Advanced Research in the Core Technical Competencies (CTCs) described above. Multiple awards of assistance instruments are anticipated with periods of performance ranging from one to five years. All funding is subject to change due to Government discretion and availability. Potential offerors should be aware that, due to unanticipated budget fluctuations, funding may change with little or no notice. There are no limits to the number of Letters of Intent an applicant may submit for this FOA. The Government reserves the right to make multiple awards or no awards pursuant to this announcement.

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SECTION I: FUNDING OPPORTUNITY DESCRIPTION

A. Program Description

AFRL RD is seeking unclassified applications that do not contain proprietary information. Proprietary information is defined as information that is not public knowledge and that is viewed as the property of the holder. Proposed research should be fundamental research. As defined in the National Security Decision Directive 89, “Fundamental Research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.” Applications shall be in accordance with Department of Defense (DoD) Directive 5230.24 and DoD Instruction 5230.27 and 32 CFR § 22.105 that further defines Basic, Applied and Advance Research as follows:

- a) **Basic Research.** Efforts directed toward increasing knowledge and understanding in science and engineering, rather than the practical application of that knowledge and understanding. It is funded within Basic Research (Budget Activity 1 and Research Category 6.1) programs within Research, Development, Test and Evaluation (RDT&E). For the purposes of this part, basic research includes:

Research-related, science and engineering education include graduate fellowships and research traineeships. Research instrumentation and other activities designed to enhance the infrastructure for science and engineering research.

- b) **Applied Research.** Efforts that attempt to determine and exploit the potential of scientific discoveries or improvements in technology such as new materials, devices, methods, and processes. It is funded in Applied Research (Budget Activity 2 and Research Category 6.2) programs within Research, Development, Test and Evaluations (RDT&E). Applied research normally follows basic research but may not be fully distinguishable from the related basic research. The term does not include efforts whose principal aim is the design, development, or testing of specific products, systems, or processes to be considered for sale or acquisition; these efforts are within the definition of “development.”

32 CFR § 22.105 further defines fundamental research regarding 6.1 and 6.2 funding in comparison to Basic and Applied Research as follows:

- c) **Advanced Research.** Advanced technology development that creates new technology or demonstrates the viability of applying existing technology to new

products and processes in a general way. Advanced research is most closely analogous to precompetitive technology development in the commercial sector (i.e., early phases of research and development on which commercial competitors are willing to collaborate, because the work is not so coupled to specific products and processes that the results of the work must be proprietary). It does not include development of military systems and hardware where specific requirements have been defined. It is typically funded in Advanced Technology Development (Budget Activity 3 and Research Category 6.3) programs within Research, Development, Test and Evaluation (RDT&E).

Research-related, science and engineering education include graduate fellowships and research traineeships. Research instrumentation and other activities designed to enhance the infrastructure for science and engineering research.

B. Directed Energy CTCs:

The AFRL Directed Energy Directorate is interested in receiving applications under this announcement to establish assistance agreements with U.S. /U.S. territories' colleges and universities for directed energy-related basic, applied, and advanced research projects that provide a public purpose and are of interest to the Department of Defense mission. The scope of the research will include the entire spectrum of directed energy technology applicable to the Air Force, including all tangentially related directed energy. The research shall include but not be limited to the following Core Technical Competencies (CTCs): Laser Systems, Directed Energy and Electro-Optics for Space Superiority, High Power Electromagnetics, and Weapons Modeling, Simulation, and Analysis. The research activities managed within each CTC are summarized below.

1. Laser Systems: This includes solid-state, fiber, and hybrid laser sources for scalable, high energy laser devices. This also includes advanced beam control, laser effects, and predictive modeling for laser subsystems, systems, propagation, and target vulnerability.

2. Directed Energy and Electro-Optics for Space Superiority: This includes advanced optical and imaging technologies such as optical components, optical coatings, advanced beam control, atmospheric compensation, adaptive optics, and pointing and tracking specifically for tracking and imaging space objects from ground-based telescopes, as well as free space quantum communication and networking.

3. High Power Electromagnetics: This includes generation and transmission of high-power microwaves (HPM), identification of the susceptibility and vulnerability of electronic systems to HPM, and applications of HPM to meet national defense needs. Technologies include HPM sources, pulsed power, high energy beam and plasma physics, and full system, High Performance Computing-enabled numerical simulation.

4. Weapons Modeling, Simulation, and Analysis: This includes computer simulation/analysis of directed energy and kinetic weapons concepts at the mission level and development of coupled computation models for Directed Energy concept analysis.

SECTION II: Federal Award Information

A. Submission Dates and Times:

Letter of Intent may be submitted any time from the FOA issue date, until the final submission deadline for letters of intent. Prior to applying, Applicants are required to submit a Letter of Intent. Applicants are required to submit a Letter of Intent through the Valid Eval Portal at https://usg.valideval.com/teams/afrl_rad/signup, which will then be reviewed for potential selection, to submit a full application.

Final Submission Deadline for Letters of Intent 18 July 2029, no later than 4:00 PM EST.

Letters of Intent and/or Applications received after the Final Submission Deadline will be deemed late and will not be accepted for review. Applicants are encouraged to transmit Letters of Intent well before the deadline. Subsequent applications must be submitted electronically through the Valid Eval at https://usg.valideval.com/teams/afrl_rad/signup.

B. Criteria:

Applications submitted under this FOA are evaluated through merit-based competitive procedures in accordance with 32 CFR § 22.315. Applications may be evaluated by the appropriate AFRL Technology Departments, and other military services. The evaluation criteria are listed in descending order of importance. No further evaluation criteria will be used to evaluate letters of intent and applications. The technical and budget proposals will be evaluated at the same time. The Government reserves the right to award all, part, or none of the technical/C-SOW applications received. The Agreements Officer is the only official authorized to make award, which will be made IAW 2 CFR.

The evaluation criteria for MANDATORY letters of intent are listed in descending order of importance:

1. Relevancy to AFRL RD CTC Topic
2. Funds Available
3. Is the interested party a University or College

The evaluation criteria are listed in descending order of importance:

1. Technical merits of the application research and development such as creativity, innovation, feasibility, and efficacy to achieve the CTC Topic Area objectives under this FOA.

- The quality of the program’s plan to execute proposed activity and assess effectiveness of the program and participant outcomes;
 - The Applicant’s capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the application objectives;
 - The qualifications, capabilities and experience of the proposed Project Director / Principal Investigator, team leader and key personnel who are critical to achieving the application objectives.
2. Potential relevance and alignment of the proposed research and development to the Department of Defense missions.
 3. Cost - Applications shall be complete, reasonable, and realistic. The availability of funds to support the effort and long-term sustainability of the project will be considered.

C. Type of Award Instrument:

Awards made under this announcement will fall under the purview of 2 CFR Part 200 Grants and Agreements and 32 CFR Part 21 Department of Defense Grants and Agreements Regulations (DoDGAR). The Government (AFRL) reserves the right to award all, part, or none of the applications in response to this announcement. The Government provides no funding for reimbursement of application development costs. This FOA is intended for applications that provide strategic solutions that meet the evaluation criteria specified in this FOA. Awards will take the form of **grants** and **cooperative agreements**. Cooperative Agreements allow for “substantial involvement” between the Federal awarding agency or pass-through entity and the non-Federal entity in carrying out the activity contemplated by the Federal award. Any assistance instrument awarded under this announcement will be governed by the award terms and conditions that conform to guidance in 2 C.F.R. 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

The Government reserves the right to cancel this announcement, either before or after the closing date. In the event the Government cancels this solicitation, or a Recipient is not selected for an award, the Government is under no obligation to pay for any costs associated with preparing or applying to this FOA.

The Government will not issue paper copies of this announcement. A formal Request for Applications, solicitation, and/or additional information regarding this announcement will not be issued.

In accordance with 31 U.S.C 6302, 6304 and 31 U.S.C. 6305:

- **Grant** is a legal instrument which, consistent with **31 USC 6302, and 6304**, is used to enter a relationship:
 - a. Of which the principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law of the United States, rather than to acquire property or services for the DoD’s direct benefit or use.
 - b. In which substantial involvement is not expected between DoD and the recipient when carrying out the activity contemplated by the award.

- **Cooperative agreement** is a legal instrument which, consistent with **31 USC 6302-6305**, is used to enter the same kind of relationship as a grant (see definition of “grant” in this part above), except that substantial involvement is expected between the DoD and the recipient when carrying out the activity contemplated by the cooperative agreement. The term does not include “cooperative research and development agreements” as defined in **15 U.S.C. 3710a**.

The Air Force reserves the right to award the instrument best suited to the nature of the research proposed. It is anticipated the awards will be made in the form of cost-reimbursement (no fee) grant and cooperative agreement awards, which require the successful offerors to have an approved accounting system considered adequate for tracking costs applicable to the award. The Government reserves the right to award all, part, or none of the applications in response to this announcement.

It is anticipated that awards under this FOA will be administered in accordance with the non-Federal entity’s preexisting internal accounting policies and practices. However, the accounting practices of the non-Federal entity must be consistent with Cost Accounting Standards and must provide adequate documentation to support costs charged to the Federal Government.

D. Review and Selection Process

The Selection Process will be conducted in two steps: First reviewing the Mandatory Letter of Intent that shall be submitted prior to a full application. The Letter of Intent will be reviewed in coordination with the Grants and Agreements Officer and designated Program Manager(s). After review of the Letter of Intent, **invited applicants** will be instructed by the Grants and Agreements Officer in writing to proceed and submit a Full Application through Valid Eval. AFRL reserves the right to reject a Letter of Intent provided by an interested Recipient. In the case of rejection, the interested Recipient will be instructed in writing by the Grants and Agreements Officer to NOT submit a Full Application through Valid Eval. If your Letter of Intent is selected, you will then be instructed in writing by the Grants and Agreements Officer to proceed to the second step of submitting a full application through Valid Eval. Only invited applicants will be eligible to submit a full application.

Security Risk Review:

(a) Each letter of intent submission will be subject to a Security Risk Review prior to selection for award. The Security Risk Review is applied to federally funded research designed to help protect Department of the Air Force Science and Technology (S&T) by identifying possible vectors of undue foreign influence. AFRL will follow all policy and procedures outlined in Air Force Research Laboratory (AFRL) Instruction AFRLI 61-113, Science and Technology Protection for the Air Force Research Laboratory and Department of the Air Force Instruction DAFI 63-101/20-101, Integrated Lifecycle Management.

(b) Security risk review for these subject mandatory letters of intent will be developed for all proposed Senior/Key personnel and “Covered Individuals”. These risk reviews will be based on information disclosed in a Research and Related Senior and Key Person Profile and Security Questionnaire. In addition, any accompanying or referenced documents, publicly available

information, and information contained in internal U.S. Government databases will be utilized in risk reviews. Nationality or citizenship is not a factor in the security risk reviews.

(c) When considering all external engagements, AFRL incorporates a holistic decision-making process that encompasses technical and security factors. The security review method implemented by AFRL measures risk factors to identify the appropriate Risk Acceptance Level (RAL) within the organization. The objective analysis of the security risk factors is conducted to empower AFRL's S&T leaders to make risk-informed decisions. The review process generally looks at five factors, or risk areas, but with authority for expanded review as noted in OSD R&E Memorandum dated 6 Jun 2023. The potential security risk factors are set forth below:
Potential security risk factors:

Actions Required by Applicants/Recipients at letter of intent submission.

(a) In accordance with AFRLI 61-113, S&T Protection, Applicants/Recipients are required to submit the following documentation with their letter of intent:

(1) Grant or Cooperative Agreement (CA) letter of intent submittals (prior to full application request provided by the Grant Officer):

- (i) Standard Form 424, "Research and Related Senior and Key Person Profile (Expanded) (See Appendix 1) AND;
- (ii) Security Program Questionnaire (See Appendix 2) AND;
- (iii) "Privacy Act Statement" consent form for each Covered Individual that is also signed by the Applicants/Recipients as that Individual's Sponsor. (See "Covered Individual" section below, and Appendix 4)

(2) In the event a security risk is identified, and the Government has determined the security risk exceeds the acceptable threshold, the Applicant/Recipient will be notified and informed of the decline of award. The Government will only provide a general statement of the reasoning due to Government OPSEC measures.

(3) By submission of the Research and Related Senior Key Person Profile and Security Program Questionnaire, the Applicant/Recipient agrees to comply with the following:

- (i) To certify that each covered individual who is listed on the application has been made aware: 1) of all relevant disclosure requirements, including the requirements of 42 U.S.C. § 6605; and 2) that false representations may be subject to prosecution and liability pursuant to, but not limited to, 18 U.S.C. §§287, 1001, 1031 and 31 U.S.C. §§ 3729-3733 and 3802. See National Science and Technology Council Guidance for Implementing National Security Presidential Memorandum 33 (NSPM-33) on National Security Strategy for United States Government-Supported Research and Development (January 2022).
- (ii) To establish and maintain an internal process or procedure to address foreign talent programs, conflicts of commitment, conflicts of interest, and research integrity.
- (iii) To exercise due diligence to identify Foreign Components or participation by Senior/Key Personnel in Foreign Government Talent Recruitment Programs and agree to share such information with the Government upon request.

Actions Required by Covered Individuals.

(a) Covered Individual. An individual who contributes to a substantive, meaningful way to the scientific development or execution of a research and development project proposed to be carried out with a research and development award from a federal research agency; and is designated as

a covered individual by the federal research agency concerned. See 42 U.S.C. § 6605, Definitions. (Note: For purposes of a Broad Agency Announcement (BAA) solicitation, “covered individuals” are all Senior/Key Personnel.)

(b) Federal law requires that all current and pending research support, as defined by 42 U.S.C. §6605, must be disclosed at the time of proposal submission, for all covered individuals. The Government may require an updated disclosure during the performance of any research project selected for funding. The Government will require an updated disclosure whenever covered individuals are added or identified as performing under the funded project.

(c) Covered Individuals are also required to sign the “Privacy Act Statement” and provide such signed statement to the Applicant/Recipient for submission with the proposal. (See Appendix 4)

(d) Any decision to accept a proposal for funding under this announcement will include full reliance on the individual’s statements. Failure to report fully and completely all sources of project support and outside positions and affiliations may be considered a material statement within the meaning of the False Claims Act, 31 U.S.C. 3729, and constitute a violation of Federal law.

Actions required by Applicants/Recipients during period of performance:

(a) Applicant/Recipient will be required to re-submit the Research and Related Senior and Key Person Profile as an annual requirement. In addition, whenever a new covered individual(s) is to be added or identified as performing under the funded project, a new Research and Related Senior and Key Person Profile will be required prior to continued performance.

(b) If, at any time, during performance of this award, the Applicant/Recipient learns that its Senior/Key Research Personnel (including any sub awardee personnel who receive this designation) are or are believed to be participants in a Foreign Government Talent Program or have Foreign Components with a strategic competitor or country with a history of targeting U.S. technology for unauthorized transfer, the Applicant/Recipient will notify the Contracting/Grants/Agreements Officer within 5 business days of awareness.

(c) This disclosure must include specific information as to the personnel involved and the nature of the situation and relationship. The Government will review this information and conduct any necessary fact-finding or discussion with the Applicant/Recipient. The Government’s determination on disclosure may include acceptance, mitigation, or termination of the award.

(d) Failure of the Applicant/Recipient to reasonably exercise due diligence to discover or ensure that neither it nor any of its Senior/Key Research Personnel involved in the subject award are participating in a Foreign Government Talent Program or have a Foreign Component with a strategic competitor or country with a history of targeting U.S. technology for unauthorized transfer may result in the Government exercising remedies in accordance with federal law and regulation.

(e) The Applicant/Recipient will be required to flow down this provision to all sub awardees who have personnel designated as Senior/Key Research Personnel because of their involvement in the performance of the research.

SECTION III- Eligibility

A. Eligible Applicants

This competition is open to accredited U.S. institutions of higher education with degree granting programs in science, mathematics, and/or engineering except for-profit educational institutions.

All proposed grants or cooperative agreements must meet criteria for public purpose in accordance with 32 CFR 22.205. U.S and U.S. territory educational institutions are reminded that any applications submitted in response to this announcement must stimulate or support a public purpose (i.e. to aid), rather than acquisition (i.e. to acquire goods or services for direct benefit of the United States Government).

Applications must substantially comply with the application submission instructions identified in (Section IV - Submitting the Application) or they will be rejected. Any application pages more than the allowable 20-page limitation will not be reviewed.

To assess risk posed by applicants, we review your application and Office of Management and Budget (OMB) designated repositories of government-wide public and non-public data, including comments you have made, as required by [31 U.S.C. 3321](#) and [41 U.S.C. 2313](#) and described in [2 CFR 200.205](#) and [32 CFR 22.410](#) to confirm you are qualified, responsible, and eligible to receive an award.

B. Cost Sharing or Matching

Cost sharing is not required under this FOA. You are not prohibited from including voluntary committed cost sharing or matching in your application. Cost sharing or matching is not an evaluation factor.

C. Classification.

The only applications that will be accepted will be those that are unclassified and that do not contain proprietary information. Proprietary information is defined as information that is not public knowledge and that is viewed as the property of the holder. Proposed research should be fundamental research. Fundamental Research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

SECTION IV - Submitting the Application

A. Pre-application Requirement: Letter of Intent (Mandatory)

This FOA has a two-part application process starting with a MANDATORY Letter of Intent, and

then a full application. Only invited applicants will be eligible to submit a full application. All applicants should be aware of the following:

Prior to submitting your application through Valid Eval, applicants are required to submit a Letter of Intent through the Valid Eval Portal at https://usg.valideval.com/teams/afri_rad/signup, which will then be reviewed for potential selection, to submit a full application. The letters should not contain any proprietary or sensitive business information. Applicants are responsible for ensuring receipt of the Letter of Intent by the Valid Eval system.

The Letter of Intent shall not exceed **two (2) pages** and at a minimum provide the following details:

1. CTC Topic
2. ROM Estimate
3. Short Description of the Technical Effort
4. Period of Performance
5. Public Purpose
6. Contacts for University
7. Cage Code

NOTE: Applications submitted without prior submission of a Letter of Intent, will NOT be considered for the proposed effort. Submission of a Letter of Intent does not warrant or guarantee for a successful application or Award. If a Letter of Intent is not to be considered for request of a full application, the applicant will be notified of non-select by the Grants and Agreements Specialist or Grants and Agreements Officer through the Valid Eval system.

Letter of Intent Review and Notification

The Letter of Intent will be evaluated in coordination with the Grants and Agreements Officer and designated Program Manager(s). This procedure is intended to minimize unnecessary efforts in application preparation and inform Recipients of availability of funds. The Letter of Intent will be reviewed within thirty (30) working days of receipt. Applicants may be contacted by the Grants and Agreements Officer, as well as the Program Manager(s) to discuss the proposed effort in the Letter of Intent.

After review of the Letter of Intent, **invited applicants** will be instructed by the Grants and Agreements Officer through Valid Eval to proceed and submit a Full Application at https://usg.valideval.com/teams/afri_rad/signup.

NOTE: AFRL reserves the right to reject a Letter of Intent provided by an interested Recipient. In the case of rejection, the interested Recipient will be instructed in writing by the Grants and Agreements Officer through Valid Eval to NOT submit a Full Application.

B. Address to Request Application Package

Electronic Submission – After being notified of selection on a Letter of Intent by the Grants

Officer, full applications shall be submitted through Valid Eval at https://usg.valideval.com/teams/afri_rad/signup. Any full application not submitted through Valid Eval will result in being disqualified for potential award. Forms are available at Grants.gov. In the Grants.gov search function, enter the funding opportunity number for this announcement (RDK-RAD-FOA-2024). The forms will also be available within the attachments of the solicitation.

SF 424 Research and Related (R&R) - The SF 424 (R&R) must be used as the cover page for all applications. Complete all required fields in accordance with form instructions for the specified Mandatory fields, which will have an asterisk marking the field and will appear yellow on most computers. In Grants.gov, some fields will self-populate based on the FOA selected. Complete the SF 424 (R&R) first, as some fields on the SF 424 are used to auto populate fields in other forms. The completion of most fields is self-explanatory except for the following special instructions:

- **Certification/Unique Agency Attachments:** All awards require certifications of compliance with national policy requirements and unique agency requirements or assistance awards, i.e., grants, proposers using the SF 424 (R&R) are providing the certification required by 32 CFR § 28 regarding lobbying.

Research and Related (R&R) Other Forms: The following other forms must be used for applications:

DoD Women in Science, Technology, Engineering, and Mathematics Data Collection Implementation:

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. A§ 1681 Et. Seq.), the Department of Defense is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in STEM disciplines. To enable this assessment, each application must include the following forms completed as indicated.

Research and Related Senior/Key Person Profile (Expanded) form:

The Degree Type and Degree Year fields on the Research and Related Senior/Key Personnel Profile (Expanded) form will be used by DoD as the source for career information. In addition to the required fields on the form, applicants must complete these two fields for all individuals that are identified as having the project role of PD/PI or CO-PD/PI on the form. Additional senior/key persons can be added by selecting the “Next Person” button.

Research and Related Personal Data Form:

This form will be used by DoD as the source of demographic information, such as gender, race, ethnicity, and disability information for the Project Director/Principal Investigator and all other persons identified as Co-Project Director(s)/Co-Principal Investigator(s). Each application must include this form with the name fields of the Project Director/Principal Investigator and any Co-Project Director(s)/Co-Principal Investigator(s) completed; however, provision of the demographic information in the form is voluntary. If completing the form for multiple

individuals, each Co-Project Director/Co-Principal Investigator can be added by selecting the “Next Person” button. The demographic information, if provided, will be used for statistical purposes only and will not be made available to merit reviewers. Applicants who do not wish to provide some or all the information should check or select the “Do not wish to provide” option.

The R&R Sub award Budget Attachment Form:

Is required when sub awardees are involved in the effort. Prime recipients shall ensure sub recipients’ cost information reflects the same level of detail as the primes’ cost information. The format shall follow the Prime’s submission as well. See section IV. 3. (j.) R&R Budget Form for detail on submission of the Prime’s budget information.

The SF-LLL form:

Is required when applicants have lobbying activities to disclose. PDF forms may be obtained at the Grants.gov website. Standard Form – LLL, ‘Disclosure of Lobbying Activities’ is in the down-loaded forms package.

R&R Project/Performance Site Locations Form:

Complete all information as requested.

R&R Other Project Information Form:

Human Subject/Animal Use and Environmental Compliance.

(a) Human Subject Use- Each application must address human subject involvement in the research by addressing the appropriate fields shown on the R&R Other Project Information Form. If selected for award, additional documentation in accordance with U.S. Air Force standards will be required.

(b) Animal Use- Each application must address animal use protocols by addressing the appropriate fields shown on the R&R Other Project Information Form. If selected for award, additional documentation in accordance with U.S. Air Force standards will be required.

(c) Environmental Compliance- Federal agencies making assistance awards and recipients of such awards must comply with various environmental requirements. The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. Sections 4321- 4370 (a), requires that agencies consider the environmental impact of “major Federal actions” prior to any final agency decision. With respect to those awards which constitute “major Federal actions,” as defined in 40 CFR § 1508.18, federal agencies may be required to comply with NEPA and prepare an environmental impact statement (EIS) even if the agency does no more than aid funds to the recipient. Questions regarding NEPA compliance should be referred to the applicable AFRL Program Manager. Most research efforts funded by AFRL will, however, qualify for a categorical exclusion from the need to prepare an EIS. U.S. Air Force instructions/regulations provide for a categorical exclusion for basic and applied scientific research usually confined to the laboratory, if the research complies with all other applicable safety, environmental and natural resource conservation laws. Each application shall address environmental impact by addressing the appropriate fields shown on the R&R Other Project

Information Form. This information will be used by AFRL to decide if the proposed research effort qualifies for categorical exclusion.

Abstract:

Include a concise (not to exceed 300 words) (publicly releasable) abstract describing the research objective, technical approaches, anticipated outcome and impact of the specific research, and public purpose in accordance with 32 CFR §22.205. In the header of the abstract include the CTC POC's name. Attach the Abstract to the R&R Other Project Information form in the appropriate field.

R&R Other Project Information Form - Project Narrative Instructions:

(a) Project Narrative – Clearly describe the research, objective, and approach to be performed. Discuss the nature of the expected results. Additionally, state knowledge in the field and include a bibliography and a list of literature citations. Identify and describe how the effort will aid assistance that will stimulate or support a public purpose. The adequacy of this information will influence the overall evaluation. Refer to the evaluation criteria listed in Section II (B.) Criteria of this announcement. Also briefly indicate whether the intended research will result in environmental impacts outside the laboratory, and how the proposer will ensure compliance with environmental statutes and regulations. Attach the application narrative to the R&R Other Project Information form in the appropriate field.

(b) Project Narrative - Statement of Work:

Offeror/applicant must submit a document entitled “Contractor Statement of Work” (C-SOW) describing the actual technical tasks/subtasks to be completed, including goals and objectives, and a detailed description of the approach for each. This C-SOW will be incorporated into the award instead of incorporating the entire technical proposal. Active verbs should be used in this statement of work (i.e., “conduct” research into a topic, “investigate” a problem, “determine” to test a hypothesis). The C-SOW should not contain proprietary information.

(c) Project Narrative - Research Effort:

Describe in detail the research to be performed. State the objectives and approach and their relationship and comparable objectives in progress elsewhere. Additionally, state knowledge in the field and include a bibliography and a list of literature citations. Discuss the nature of the expected results. The adequacy of this information will influence the overall evaluation. Applications for renewal of existing support must include a description of progress if the proposed objectives are related.

(d) Project Narrative - Principal Investigator (PI) Time:

List the estimated time the PI and other senior professional personnel will devote to the research. This shall include information pertaining to other commitments of time, such as sabbatical or extended leave; and proportion of time to be devoted to this research and to any other research. Awards may be terminated when the principal investigator severs connections with the organization or is unable to continue active participation in the research. State the number of graduate students for whom each senior staff member is responsible. If the principal investigator or other key personnel are currently engaged

in research under other patronages, or expect to receive support from other agencies for research during the time proposed for AFRL support, state the title of the other research, the proportion of time to be devoted to it, the amount of support, name of agency, dates, etc. Send any changes in this information as soon as they are known. Submit a short abstract (including title, objectives, and approach) of that research and a copy of the budget for both present and pending research projects.

(e) Project Narrative – Facilities:

Describe facilities available for performing the proposed research and any additional facilities or equipment the organization proposes to acquire at its own expense. Indicate government-owned facilities or equipment already possessed that will be used. Reference the facilities contract number or, in the absence of a facilities contract, the specific facilities or equipment and the number of the award under which they are accountable.

(f) Project Narrative – Special Test Equipment:

List special test equipment or other property required to perform the proposed research. The Government will not provide special test equipment. When possible and practicable, give a description or title and estimated cost of each item. When information on individual items is unknown or not available, group the items by class and estimate the values. In addition, state why it is necessary to acquire the property with award funds.

(g) Project Narrative – Equipment:

Justify the need for each equipment item. Additional facilities and equipment will not be provided unless the research cannot be completed by any other practical means. Include the proposed life expectancy of the equipment and whether it will be integrated with a larger assemblage or apparatus. If so, state who owns the existing apparatus.

R&R Budget Form:

Estimate the total research project cost. Budget detail should clearly identify costs, which are internal to the offeror and those that are used in pursuit of the objectives such as scholarships, training, course preparation, etc. Categorize funds by year and provide separate annual budgets for projects lasting more than one year. In addition to the Research and Related Budget forms available on Grants.gov, the budget proposal should include a budget justification for each year, clearly explaining the need for each item. Applicants who enter a fee on Part J of the budget will not be eligible to receive a grant or cooperative agreement. Attach the budget justification to Section K of the R&R Budget form.

C. Content and Form of Application Submission

Full Applications and Submission Information:

Applications must be submitted through Valid Eval to be considered for award.

Submit electronic applications through Valid Eval at:

https://usg.valideval.com/teams/afri_rad/signup. The electronic submission of the application must be made by an official representative of the institution who is registered with Grants.gov and is authorized to sign applications for federal assistance.

Problems completing the registration process call Grants.gov at 1-800-518-4726 or send an email to support@grants.gov.

Problems completing either the mandatory letter of intent or application submittal process, email Valid Eval at support@valideval.com.

The Government seeks only Full Applications that:

- (1) Have submitted a Letter of Intent to the Grants and Agreements Officer and Contracting Specialist through Valid Eval,
- (2) Have received in writing a notification from the Grants and Agreements Officer through Valid Eval to proceed with a Full Application submitted through Valid Eval at https://usg.valideval.com/teams/afri_rad/signup, and
- (3) Meet the eligibility requirements of Section III - Eligibility.

Full applications must conform to the following form and content requirements, including maximum page lengths (described below) and must be submitted via Valid Eval. AFRL will not extend deadlines for Recipients who fail to submit required information and documents due to technological issues.

For more detailed instructions on creating a profile on Grants.gov, refer to: <https://www.grants.gov/web/grants/applicants/registration/add-profile.html>.

The application must conform to the following requirements:

- Full Application Format (PDF);
- Paper Size – 8.5 x 11-inch paper
- Margins – 1 inch
- Spacing – single or double spaced
- Font – Times New Roman 12 point
- Page Limitation – Technical proposals shall not exceed twenty (20) pages. This includes cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced. Page numbers must be included in the footer of every page. References must be included as footnotes or endnotes in a font size of 10. Footnotes and endnotes are counted toward the maximum page requirement.
- Unnecessarily elaborate applications are not desirable.
- Attachments – submit in PDF format (Adobe Portable Document Format)
- Cover Page should include AFRL Address, but not limited to the following: AFRL RDKP (Attn: Ms. Mariah Salazar); RDK-RAD-FOA-2024
- Main Topic Area (Reference CTC Topic you will be submitting to)

The recipient shall apply describing the proposed research project's:

- (1) objective,
- (2) general approach,
- (3) public purpose in accordance with 32 CFR § 22.205, and 22.215 and

(4) impact on Department of Defense (DoD) mission. The application shall also contain any unique capabilities or experience you may have (e.g., U.S. Air Force, DoD, or other Federal laboratory).

Conferences and Workshops:

The Government understands that it is essential for the scientific community to maintain clear lines of communication for thorough and well- reasoned research to be accomplished. **One** conference or workshop may be allowed for each proposed assistance agreement. Conferences and workshops have proven to be extremely valuable tools for AFRL. They allow our technical managers the opportunity to receive current information in their respective disciplines. They also allow AFRL the opportunity to inform the research community of the current thrust of AFRL's programs. Conferences and workshops constitute key forums for research and technology interchange. AFRL's financial support through appropriate financing vehicles for conferences and workshops is dependent on the availability of funds, Program Officer's discretion, and certain other restrictions including:

AFRL/RD support for a workshop or conference is not to be considered as an endorsement of any organization, profit or non-profit. The subject matter of the conference or workshop is scientific, technical, or involves professional issues that are relevant to the purpose of the technical description of the grant or cooperative agreement.

Applications should include the following for all proposed conferences and workshops:

Conference/Workshop Information:

- Summary indicating the objective(s) of the conference/workshop
- Title, location, and date(s) of the conference/workshop
- Explanation of how the conference/workshop will relate to the research interests of AFRL identified in Section III of the Funding Opportunity Announcement (FOA)
- List of proposed participants and method (or copies) of announcement or invitation
- Include cost information for the proposed conference/workshop (in addition to information required on SF 424 (R&R) Budget forms)

Applications shall provide cost information in accordance with Attachment 1, Budget Application Instructions-Assistance Instruments.

If selected for negotiation of an award, the Government reserves the right to request additional or clarify information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information or financial breakdown information
- Project Narrative details or technical proposal information
- Key Personnel
- Data Management Plan

**D. Unique entity identifier and System for Award Management (SAM)
Registering for SAM.GOV**

Read the instructions below about registering to apply for administering agency's funds. Applicants should read the registration carefully and prepare the information requested before beginning the registration process. Reviewing and assembling the required information before beginning the registration process will alleviate last minute searches for required information.

Creating a Grants.gov account can be completed online in minutes, but SAM registrations may take several weeks to complete. Therefore, registration should be done in sufficient time to ensure it does not impact your ability to meet required application submission deadlines.

Register with SAM:

Registrations in SAM now include the acceptance of Certifications and Assurances. Entities creating new registrations and existing entities completing their annual registration renewals will be required to review financial assistance representations and certification before their registration can be activated.

Unique Entity Identifier (UEI) Number will also be given upon SAM registration.

Registration must be renewed annually. Unless exempted by 2 CFR § 25.110 all applicants must

- (1) Be registered in the System for Award Management (SAM) prior to award;
- (2) Maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration by an agency.

Federal Awardee Performance and Integrity Information System (FAPIIS)

Per 41 U.S.C. 2313, as implemented 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, this office is required to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees can comment on any information about themselves entered in the database, and this office will consider any comments, along with other information in FAPIIS or other systems prior to making an award. Government-wide policy on the use of the Federal Awardee Performance and Integrity Information System (FAPIIS) within SAM facilitate the agencies' processes for judging proposed applicants to be qualified to receive an assistance award. AFRL may not award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements. If an applicant has not fully complied with the requirements by the time the Federal awarding agency is ready to make a Federal award, the Federal agency may determine that the applicant is disqualified.

E. Funding Restrictions:

Funds are not presently available for this effort. No award will be made under this announcement until funds are available. The Government reserves the right to cancel the announcement, either before or after the closing date. In the event the Government cancels the announcement, the Government has no obligation to reimburse an offeror for any costs.

The U.S. Government does not guarantee an award in each topic area. Further, be advised that as funds are limited, otherwise meritorious applications may not be funded. Therefore, it is important that applications show strength in as many of the evaluation area as practicable for maximum competitiveness.

Availability of Funds.

Funding for all awards and future budget periods are contingent upon the availability of funds appropriation for the purpose of this effort and the availability of future-year budget authority. Resultant awards will not allow reimbursement of pre-federal award costs.

Cost Principles.

Costs must be allowable, allocable, and reasonable in accordance with the applicable Federal cost principles referenced in 2 CFR part 200 and FAR Part 31.

Pre-Award Costs.

Pre-award costs are incurred at the applicant's risk. The Government is under no obligation to reimburse such costs if for any reason the applicant does not receive an award, or if the award is made for an amount less than the applicant's expectation. Requests for Pre-Award Costs will be submitted to the Grants Officer for review and consideration of approval.

Performance of Work in the United States.

All work performed under this FOA must be performed in the United States. If the prime applicant fails to comply with the Performance of Work in the United States requirement, AFRL may deny reimbursement for the work conducted outside the United States and such costs may not be recognized as allowable.

Foreign Travel.

Foreign travel costs are not allowable under this FOA unless approval has been granted by the Grants and Agreements Officer.

DoD Directive 5230.24 and DoD Instruction 5230.27 define contracted fundamental research in a DoD context as follows:

"Contracted Fundamental Research. Includes [research performed under] grants and contracts that are (a) funded by budget Category 6.1 ("Research"), whether performed by universities or industry or (b) funded by budget Category 6.2 ("Exploratory Development") and performed on-campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the 6.2-funded effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant."

F. Other Submission Requirements

Science & Technology (S&T) Program Protection: Interested Recipients shall include a requirement for submission of:

- 1.) A completed Standard Form (SF 424), Research and Related Senior/Key Person Profile (Expanded) Form (**This form can be found under Forms Tab on Grants.gov site**) for all Senior/Key Personnel proposed; and
- 2.) A Completed Security Program Questionnaire (**See Attachments**). Offerors may be asked to provide a mitigation plan for any identified S&T Protection risks. The Government reserves the

right to determine a potential recipient un-awardable on the grounds of unacceptable S&T Protection risk based on its review of the SF 424 and Security Program Questionnaire.

By applying, the Offeror certifies that it follows Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 which requires that:

- (A) the Principal Investigator (PI) and other key personnel certify that the current and pending support provided on the application is current, accurate and complete;
- (B) agree to update such disclosure at the request of the agency prior to the award of support and at any subsequent time the agency determines appropriate during the term of the award; and
- (C) the PI and other key personnel have been made aware of the requirements under Section 223(a)(1) of this Act. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. code, Title 218, Section 1001).

Joint Certification Program (JCP):

Was established in 1985 to allow United States (U.S.)/Canadian contractors to apply for access to Department of Defense/Department of National Defense (DOD/DND) unclassified export controlled technical data/critical technology on an equally favorable basis in accordance with DODD 5320.25 “Withholding of Unclassified Technical Data and Technology from Public Disclosure”, and Canadian Technical Data Control Regulations.

Electronic Document Access (EDA) and Wide Area Workflow (WAWF):

Electronic Document Access System (EDA) is a Web-based system that provides secure online access, storage and retrieval of awards and modifications to DoD employees and vendors. Wide Area Workflow (WAWF) application is designated as the Department of Defense standard for electronic invoicing and payment. All parties doing business with ONR are strongly encouraged to register to participate in the WAWF program. For additional information on registration and the electronic payment process as with (EDA) complete a self-registration request as a “Vendor” through <https://wawf.eb.mil/>

Employees of commercial firms under contract to the Government may be used to administratively process applications and may gain access to proprietary information contained in applications and/or post award documentation. These support contracts include nondisclosure agreements prohibiting their contractor employees from disclosing any information submitted by other contractors.

DoD Required Elements:

In accordance with 2 CFR 200.205 DoD will conduct a risk assessment of all potential recipients. In addition to the elements listed in 2 CFR 200.205, DoD components may include other criteria to determine various types of risk, such as protocols for the protection of intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security, human subjects, and Personally Identifiable Information (PII), as listed in the notice of funding opportunity.

Section V - Application Review Information

A. Federal Award Notices

The applicant's approved account holder for **Valid Eval** will receive confirmation upon completing the submission to https://usg.valideval.com/teams/afrl_rad/signup. After an institution applies, **Valid Eval** generates a submission receipt via email and sets the application status to "Received". This receipt verifies the application has been successfully delivered to the **Valid Eval** system.

It is expected that applicants will be notified in writing of funding decisions via email. Notification of selection does not indicate that the applicant can start work on the project. Project initiation is dependent upon award of the actual Grant or Cooperative Agreement by a warranted Grants and Agreements Officer.

All awards require final technical reports, financial reports, and final patent reports. Copies of publications and presentations shall be submitted in accordance with the terms and conditions of the assistance award.

B. Other Information

Modifications and No Cost Extensions (NCE): AFRL grants NCEs only in situations which the extension is truly warranted and properly documented. In no event will the period of performance be extended merely for the purpose of using unobligated balances. Institutions should make every effort to ensure work is completed on time. If an institution deems an NCE is truly warranted, it shall submit its request for an extension and supporting reasons to the relevant Grants Officer. (Reference 32 CFR § 32.25, Revision of Budget and Program Plans for further guidance)

Data Rights

The Government reserves the right to assert intangible property rights in accordance with 32 CFR § 32.36 for any assistance instrument awarded because of this announcement.

C. Reporting

Interested recipients are required to abide by [2 CFR 180.335](#) and [180.350](#) if an award is made.

D. Federal Awarding Agency Contact(s)

For technical issues regarding this FOA or administrative issues regarding this FOA, contact the grants specialist at the email address identified in Section V. All questions must be received in writing via email with the reference line referring to this notice (RDK-RAD-FOA-2024).

**** Important Notice Regarding Questions of a Business Nature **** All questions shall be submitted in writing by electronic email. Questions presented by telephone call, fax message, or other means will not be responded to.

CONTRACTING POCs:

Primary: Grants Officer: Ms. Mariah Salazar; mariah.salazar@us.af.mil

Alternate: Grants Officer: Ms. Jennifer Jaramillo; jennifer.jaramillo@us.af.mil

Grants Specialist: Ms. Monique Esquibel-Sena; monique.esquibel_sena@us.af.mil

Ombudsman:

a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from recipients, potential recipients, and others for this requirement. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman does not affect the authority of the Program Manager, Agreements Officer, or Approving Official. Further, the ombudsman does not participate in the evaluation of applications, the award process, or the adjudication of protests or formal disputes. The ombudsman may refer the party to another official who can resolve the concern.

b) Before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the Agreements Officer for resolution. Consulting an ombudsman does not alter or postpone the timelines for any other processes (e.g., agency level protests, GAO protests, requests for debriefings, employee-employer actions, contests of OMB Circular A-76 competition performance decisions).

c) If a resolution cannot be made by the Agreements Officer, concerned parties may contact the AFRL ombudsmen:

Ombudsman: AFRL Director of Contracts, AFRL/PK, 1864 4th Street, Bldg 15, Room 225, Wright Patterson AFB OH 45433-7130, 937-255-5235, E-mail: afrl.pk.workflow@us.af.mil

d) The ombudsman has no authority to render a decision that binds the agency.

e) Do not contact the ombudsman to request copies of the announcement, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Agreements Officer.

Section VI – Appendix, Attachments, and References:

Attachments:

1. Attachment I, Budget Proposal Instructions
2. Attachment II, DoD Research General Terms and Conditions – March 2025
3. Attachment III, Data Management Plan
4. Attachment IV, SF424
5. Attachment V, Security Program Questionnaire Form