



Notice of Funding Opportunity

Fiscal Year 2025

This is a special Notice of Funding Opportunity (NOFO) sponsored by the Air Force Office of Scientific Research, hereafter generally referred to as “we, us, our, or AFOSR”. AFOSR recognizes that future areas of research may not fall within its existing portfolio structure and has initiated the Director’s Research Initiative (DRI) to stimulate research activity in specific areas of importance to AFOSR.

AFOSR anticipates making at least four (4) awards of approximately \$200,000 to \$750,000 per year per award for a maximum of three years. All funding projects are based on availability of funds.

Proposers are encouraged to confer with the designated AFOSR Program Officer(s) (PO) or International Program Officer(s) (IPO) prior to submitting a full proposal. We will evaluate proposals using an internal review panel. AFOSR reserves the right to select and fund all, some, or none of the proposals from one, two, three, or all the topics below. Please see the topic descriptions, which can be found in the [Program Description](#).

White papers briefly summarizing the proposing institution’s ideas are strongly encouraged but not specifically required. Submit white papers to our whitepaper portal, which is linked below. The topic points of contact (POCs) will coordinate to provide feedback to white papers.

The proposals will need to include a data management plan, outlining how samples and data collected in the program will be stored and managed. This includes but is not restricted to issues such as: standards for data and metadata collection, content and format, data archiving, database management, and data sharing within, outside the awardee and beyond the lifetime of the grant. This precondition is modeled on the National Science Foundation Data Management Plan requirement (e.g. https://nsf.gov/eng/general/ENG_DMP_Policy.pdf).

Please review the entire announcement for full details of this funding opportunity.

Hyperlinks have been embedded within this document and appear as underlined, and or blue- colored words in the midst of paragraphs. The reader may “jump” to the linked section within this document by “clicking” (CTRL + CLICK or CLICK).

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A. BASIC INFORMATION

1. Federal Awarding Agency Name

Air Force Office of Scientific Research
875 North Randolph Street
Arlington, VA 22203

2. Funding Opportunity Title

Fiscal Year (FY) 2025 Directors' Research Initiative (DRI)

3. Announcement Type

Initial Announcement. Note that although this is a one-time opportunity, it is anticipated that this could be a recurring funding opportunity.

4. Funding Opportunity Number

NOFOAFRLAFOSR20250001

5. Assistance Listing Number

12.800 Air Force Defense Research Sciences Program

6. Funding Details

AFOSR intends to fund a minimum of four (4) awards, in the amount of **\$200,000 to \$750,000** per year, for a maximum of three (3) years. The expected value of each award is anticipated to be \$600,000 to \$2,250,000. The total amount of funding available for this initiative, for fiscal year 2025, is \$2,300,000.

7. Key Dates

Pre-proposal inquiries and questions, regarding white papers and the submission of those white papers, must be received in writing by electronic mail to the address(es) listed under section [A.9.a.](#) of this NOFO not later than 16 JAN 2025 at 11:59 PM Eastern Time to be considered. The Government will respond to any pre-proposal inquiries or questions via public posting, or individual responses, no later than COB on 24 JAN 2025.

White papers must be received by submitting to <https://community.apan.org/wg/afosr/p/submitawhitepaper> by 31 JAN 2025 at 11:59 PM Eastern Time to be considered. White paper evaluation is meant to initially assess the capability of a proposed effort and is **NOT** a selection process. White papers must be no

more than 3 pages in length. References and CV/bios will not count against the page limit. White papers should minimally articulate:

- a) An initial list of members of the proposed team with a short bio or CV for each (CVs and/or bios will not count against page limit)
- b) The main technical components of the proposed research and how it aligns with the goals of the solicitation.
- c) The specific proposed activities with a demonstrated understanding of the basic science needs.

Government will respond on white paper determination before COB on 14 FEB 2025.

Pre-proposal inquiries and questions must be received in writing by electronic mail to the address(es) listed under section [A.9.a.](#) of this NOFO not later than 28 FEB 2025 at 11:59 PM Eastern Time to be considered. The Government will respond to any pre-proposal inquiries or questions via public posting, or individual responses, no later than COB on 14 MAR 2025.

Proposals must be received electronically through Grants.gov by 01 APR 2025 at 11:59 PM Eastern Time to be considered.

We anticipate that we will notify proposers of selection or non-selection for award no later than 01 JUN 2025. We anticipate awards to be made by 15 JUL 2025, barring delays.

8. **Executive Summary**

This Director's Research Initiative NOFO will fund topics that are of interest to the Air Force Office of Scientific Research, as well as areas of interest to the United States Space Force. The theme for this initiative is *Energy for Agility*. Discovery science is needed today to achieve the energy resources required for the future integrated employment of Air and Space Forces, for power generation and optimization, and resilience to exposure.

In the coming decades, we are expecting to witness groundbreaking innovations in energy generation (in traditional methods, nuclear methods, and alternative methods of fuel and power), mobile energy storage, and power distribution that will change the way we think about energy for our Air and Space systems.

Regardless of the selection of power generation and power requirements of a system, power system engineering should push beyond reliance on electrical engineering power conditioning concepts, and applied mathematical methods are required to create foundational competency to optimize power efficiency that take into account system activities with variable durations, purposes, and environments. A rigorous coupling

between kinetics, mechanics, and electrochemistry is required for the discovery of next generation batteries.

The convergence of major advancements in precision multi-material manufacturing, high fidelity functional material simulation, full linkages between component-operational-campaign level modeling, self-learning artificial intelligence, and advanced platform and propulsion designs will lead to revolutionary changes in system design processes and will enable rapid revolutionary system optimization. Increased activities in space will bring new exposures to radiation from, for example, space and mobile energy/power sources together with extreme environments. This creates new demands for protecting systems, such as needs for protective coatings or gear, radiation hardening, or multi-functionality of materials, electronics, and systems. Questions will likely arise around human exposure and protection, as agile energy may create localized extreme environments and novel exposure challenges. Advances in fundamental chemistry, fundamental biology, or computational sciences may prompt novel opportunities in the convergence of biosciences with unconventional energy concepts.

This NOFO seeks proposals that will push the science of energy in many forms for agile future technologies.

9. Agency Contact Information

a) Technical Inquires and Questions

You should submit your questions in writing by electronic mail to the Program Officer responsible for your topic(s) of interest from Section [C. Program Description](#). You should include the announcement number in the subject line of your email.

The technical contacts for this announcement by program description, are as follows:

SECTION	PROGRAM DESCRIPTION	PROGRAM OFFICER(s)
C.1.a	Bio-Agile Energy Optimization	Dr. Jennifer Talley, Dr. Bennett Ibey, & Major Travis Tubbs
C.2.a	Time Materials/Time Interfaces	Dr. Arje Nachman
C.3.a	Controlling Reactivity at Electrochemical Interfaces	Dr. Michael Berman
C.4.a	Collaborative Resource Sharing for Proliferated Space Architectures	Dr. Justin Koo, Dr. Andrew Sinclair, & Dr. Michael Yakes

If you submit a question via telephone call, fax message, or any other means, you may not receive a response.

Topic 1: Bio-Agile Energy Optimization
DR. JENNIFER TALLEY, AFOSR/RTB

Email: jennifer.talley.1@us.af.mil

DR. BENNETT IBEY, AFOSR/RTB

Email: bennett.ibey@us.af.mil

MAJ TRAVIS TUBBS, AFOSR/IOS

Email: travis.tubbs@spaceforce.mil

Topic 2: Time Materials/Time Interfaces

DR. ARJE NACHMAN, AFOSR/RTB

Email: arje.nachman@us.af.mil

Topic 3: Electrochemical Interfaces

DR. MICHAEL BERMAN, AFOSR/RTB

Email: michael.berman@us.af.mil

Topic 4: Proliferated Space Architectures

DR. JUSTIN KOO, AFOSR/RTA

Email: justin.koo@us.af.mil

DR. ANDREW SINCLAIR, AFOSR/RTB

Email: andrew.sinclair@us.af.mil

DR. MICHAEL YAKES, AFOSR/RTB

Email: michael.yakes@us.af.mil

b) General Inquires and Questions

You must send all general questions and inquiries about this announcement by email. Your questions will generally be consolidated with other questions and posted on grants.gov so everyone gets the same information. We may provide an individual response by email if your question does not apply to everyone else.

JULIA CARRICO, AFOSR/RBKR1

Grant and Contracting Officer

Julia.carrico@us.af.mil

B. ELIGIBILITY

1. Eligible Applicants

a) Qualified and Responsible United States and Foreign Educational & Non-Profit Institutions

You are eligible to submit an application if you are a qualified and responsible educational institution in the United States, and abroad, as defined at [10 U.S.C. 2194](#). Educational institution means a local educational agency, college, university, or any other nonprofit institution dedicated to improving science, mathematics, and engineering education. We especially encourage international institutions located in South America to apply for topics relevant to their specific regions. No other entities are eligible to submit applications under this competition. However, lead proposals may include participation of for-profit companies through the use of subawards or subcontracts, whichever is determined appropriate in accordance with requirements under [2 CFR 200.331](#). We review your application, proposal, 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 [41 U.S.C. 2313](#) and described in [2 CFR 200.205](#) and [32 CFR 22.410](#) to assess risk posed by applicants, and confirm applicants are qualified, responsible, and eligible to receive an award.

b) HBCU/MI, Tribal College and University Applicants Encouraged

Historically Black Colleges and Universities and Minority Serving Institutions (HBCUs/MSIs) and Tribal Colleges and Universities are encouraged to submit research proposals and join others in submitting proposals. However, no funds under this announcement are reserved or otherwise set-aside for any specific entity type. The Air Force will only use the [F.1. Criteria](#) for proposal selection.

c) University Affiliated Research Centers (UARCs)

University Affiliated Research Centers (UARCs) are eligible to submit proposals under this announcement unless their Department of Defense UARC contract precludes the application.

d) Ineligible Entities

None of the following entity types are eligible to submit proposals as primary award recipients under this announcement

(i) Federally Funded Research and Development Centers (FFRDCs)

(ii) Individual persons or people

(iii) Federal agencies (to include Military Educational Institutions)

(iv) For-profit institutions

2. Cost Sharing

Cost sharing or cost matching is neither required nor an evaluation criterion for proposals under this announcement. You may propose voluntary committed or uncommitted cost sharing or matching, for example, additional support for students. Any voluntary committed cost sharing amount will be included in the total award value.

3. Other

a) Acknowledgment of Support and Disclaimer Requirements

You must include the [H.1.e.](#) Acknowledgment of Research Support on all materials created or produced under our awards. The [H.1.f.](#) Disclaimer Language must be included on materials as required. The award document may provide additional instructions about specific distribution statements to use when you provide research materials to us. You are not eligible to submit a proposal if you cannot accept these terms.

b) Expectation of Public Dissemination of Research Results

We expect research funded by this announcement will be fundamental. We expect public dissemination of research results if you receive an award. This is a basic requirement for unclassified research results. We intend, to the fullest extent possible, to make available to the public all unclassified, unlimited peer-reviewed scholarly publications and digitally formatted scientific data arising from research and programs funded wholly or in part by the DoD as described in the OUSD, AT&L Memorandum, "[Public Access to Department of Defense-Funded Research](#)" dated 09 Jul 2014.

We follow [DoD Instruction 5230.24](#) and [DoD Instruction 5230.27](#) policies and procedures to ensure broad dissemination of unclassified research results to the public and within the Government. The DoD Instruction 5230.27 policy and procedures allowing publication and public presentation of unclassified fundamental research results will apply to all research proposed under this competition unless the Program Officer gives you an explicit, written exclusion to these policies with the Grants or Contracting Officer's advice and consent. All exclusions must be authorized or required by law and must cite a valid legal authority.

You must provide a copy of all peer-reviewed publications developed or produced from research conducted with Air Force and Space Force funds to our Program Officer.

You are not eligible to submit a proposal if you cannot accept these terms.

c) **Disclosure of Conflict of Commitment and Conflict of Interest**

This announcement requires that all current and pending research support, as defined by Section 223 of the FY21 National Defense Authorization Act must be disclosed at the time of proposal, for all covered individuals. Such disclosure will be updated annually during the performance of any research project selected for funding, and whenever covered individual are added or identified as performing under this project. Covered Individuals are those who are listed as key personnel on proposals including but not restricted to the principal investigator or co-principal investigator.

Any decision to accept a proposal for funding under this announcement will include full reliance on the applicant's statements. Failure to report fully and completely all sources of project support and outside positions and affiliations may be considered a materials statement within the meaning of the federal False Claims Act and constitute a violation of law.

The funding agency may conduct a pre-award conflict of interest/conflict of commitment review of any proposal selected for funding, as defined in the [National Security Strategy for United States Government-Supported Research and Development](#) (NSPM-33). Offerors are advised that any significant conflict of interest/conflict of commitment identified may be a basis for the rejection of an otherwise awardable proposal.

- (i) **General Requirement for Disclosure:** You and your organization must disclose any potential or actual scientific or non- scientific Conflict of Interest(s) to us. You must also disclose any potential or actual conflict(s) of interest for any subrecipient you include in your proposal.

You must provide enough information for us to evaluate your disclosure. We may have to ask you more questions if we need more information.

At our discretion, we may ask you for a conflict-of-interest mitigation plan after you submit your proposal. Your plan is subject to our approval.

- (ii) **Scientific Conflict of Interest:** Scientific collaborations on research and development projects are generally the result of close collaboration prior to the submission of applications for support. Accordingly, virtually all of these collaborations might be considered to include a potential conflict of interest. The potential conflict is mitigated by the disclosure of these collaborations, and the list of current and pending support you provide for senior and key researchers.

C. PROGRAM DESCRIPTION

The DRI NOFO seeks to fund research of interest to the Air and Space Forces. Specifically, it will focus on the theme of *Energy for Agility* and will work with institutions of higher education or other non-profit institutions (hereafter referred to as "universities"). The topic areas that we seek to support with this NOFO are independent from those described in our open Broad Agency Announcement (BAA) (Research Interests of the Air Force Office of Scientific Research) and do not fall completely within any one research program. We seek to

support multidisciplinary research efforts, creating synergies to speed DoD-relevant research and development.

Basic and applied research are defined in the DoD Financial Management Regulation:

Basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress (DoD 7000.14-R, vol. 2B, chap. 5, para. 050201.B).

Applied research is systematic study to understand the means to meet a recognized and specific need. It is a systematic expansion and application of knowledge to develop useful materials, devices, and systems or methods. It may be oriented, ultimately, toward the design, development, and improvement of prototypes and new processes to meet general mission area requirements. Applied research may translate promising basic research into solutions for broadly defined military needs, short of system development. This type of effort may vary from systematic mission-directed research beyond that in Budget Activity 1 to sophisticated breadboard hardware, study, programming and planning efforts that establish the initial feasibility and practicality of proposed solutions to technological challenges. It includes studies, investigations, and non-system specific technology efforts. The dominant characteristic is that applied research is directed toward general military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions and determining their parameters. Applied research precedes system specific technology investigations or development. Program control of the applied research program element is normally exercised by general level of effort. Program elements in this category involve pre-Milestone B efforts, also known as Concept and Technology Development phase tasks, such as concept exploration efforts and paper studies of alternative concepts for meeting a mission need (DoD 7000.14-R, vol. 2B, chap. 5, para. 050201.C).

Detailed descriptions and the government point(s) of contact can be found below. The descriptions are intended to provide the applicant a frame of reference and are not meant to be restrictive to the possible approaches and component solutions to achieving the goals of the topic and the program. Innovative ideas addressing these research topics are highly encouraged.

The schedule for this announcement is given in [A.7 Key Dates](#).

In Fiscal Year 2025, we seek proposals in four (4) topic areas. These specific topics include bio-agile energy, space architectures, metamaterials, and electrochemistry. Specifics are as follows.

1. **Bio-Agile Energy**

Title: Understanding Bio-Agile Energy Optimization in Resource Restricted Environments

Background: Deployment of autonomous systems in space represents critical challenges including repair, resupply, and survival in the ultimate of extreme environments Energy management of resources within a system is of highest importance as it directly relates to long term survivability. Space, unlike Earth, has a harsher and more variable environment in temperature, light levels, radiation, pressure and hydration. These environmental stresses and the inability to rapidly resupply spacecraft point to the need to optimize space systems well beyond typical engineered systems on earth.

Many biological systems live at the cusp of resource depletion and have evolved advanced strategies for energy harvesting/storage/usage and waste mitigation to enable survival in the most austere environments. These agile energy adaptations exist at many scales (molecule to tissue to organism to ecosystem). A space-based technology, of living or non-living components, is both a material-based system at the molecular level and an ecosystem in its functioning.

In this topic, we seek to advance the understanding of how certain biological systems, like those persisting under extreme resource-deprivation, manage energy/resource limitations and the potential application to space assets and components. Certain Earth environments have restricted solar access, limited carbon-based resources, limited trace nutrients and changes in atmospheric contents; examples include deep terrestrial, deep ocean, extreme altitude, etc. South America by itself contains many of these locations such as the high-altitude deserts, deep-sea hydrothermal vents, acidic hot springs, and hypersaline lakes, along with Antarctica's subzero temperatures and high UV radiation. It is through the bio-agility that evolved to optimize energetics in those environments can that inform our autonomous living and nonliving space systems both in orbit and potentially on other planetary bodies. We draw a parallel between a space-based technology that must upcycle, recycle, and mitigate waste to that of a biological system that maintains homeostasis. We believe breakthroughs in engineering co-design optimization, strategies for resupply/recycling, and waste management in space-based systems should be bio-informed at all scales from components (e.g., microchips) to autonomous systems (e.g., satellites). Unlike in terrestrial extreme environments where things can be infinitely adaptable, a space-based mutating biological system will need a built-in fail-safe to safely harness the power of biological adaptation.

Objective: Explore biological systems that survive in resource restricted environments with a focus on energy production, storage, waste stream (energy loss) management for

efficiency. This objective is distinct from extremophile discovery or the creation of extreme living materials, instead focuses on modeling of energetics in biotic/abiotic systems containing extremophiles for space applications.

Research Concentration Areas:

1. Investigate and/or model energy cycling through biosystems as control systems including:
 - a. Identify novel adaptations due to resource limitations to include intentional redundancy and agile responses in energy source/input.
 - b. Identify novel energy generation mechanism(s) in extreme environments
 - c. Track energy loss /recovery in natural systems under austere conditions
 - d. Identify novel repair mechanism(s) guided by external stress
2. Model energy transfer in the biological system with specific focus on the influence of external environmental stresses.
3. Model how uncertainty in biological systems provides robustness naturally to control systems.

Anticipated Resources: We anticipate 2-4 awards of \$180K - \$375K/year for three (3) years, and we highly encourage collaboration between North and South American institutions. We also highly encourage budgeting for travel between the continents for collaboration, field and lab research, and technical exchange. Southern Office of Aerospace Research and Development (SOARD) will facilitate hosting workshops in 3 different extreme environments in South America (SA) inviting awarded researchers in the USA and SA, extremophile researchers in SA, as well as the Spanish Network of Extremophile Microorganisms.

Research Topic Chiefs:

Dr. Jennifer Talley, AFOSR/RTB, jennifer.talley.1@us.af.mil, 703.696.7336

Dr. Bennett Ibey, AFOSR/RTB, bennett.ibey@us.af.mil, 703.965.5327

Major Travis Tubbs, AFOSR/IOS, travis.tubbs@spaceforce.mil

Dr. Frederick Leve, AFOSR/RTB, frederick.leve@us.af.mil, 703.696.9730

Please email all topic chiefs with any technical inquiries you may have.

2. **Metamaterials**

Title: Time Metamaterials/Time Interfaces

Background: Over the past two decades, electromagnetics research has witnessed the rise of artificially structured materials with ad-hoc properties that can vastly surpass those found in natural materials. These metamaterials rely on the engineering of microscopic resonant elements at length scales smaller than the wavelength of light so as to guide, absorb, or steer light at will. Hence, they leverage both the intrinsic optical properties of

their constituents, and the emergent response dictated by their subwavelength geometry. Current metamaterials, however, suffer from stringent limitations such as limited bandwidth of operation and vulnerability to optical losses. This is due to their temporal invariance, and consequent energy-conserving nature. Moreover, increasing technological demand is placed on our ability to produce radiation over new frequency bands. To tackle these challenges, the metamaterials community should start exploring the temporal dimension as a new degree of freedom for electromagnetics.

Objective: Pursue basic research in the behavior of light in time-varying metamaterials. The latter exhibits not only interesting dualities with their spatial counterparts, but also enables entirely new effects not available in conventional photonic structures. Interesting phenomena arise at time interfaces, which consist of a sudden change in the properties of the material within which the waves are traveling. To be effective, this change must be much faster than the temporal dynamics of the involved signal. In this way, an electromagnetic pulse can, for example, be “sculpted” upon colliding with a suitably tailored auxiliary pulse, which will thereby “chisel away” or amplify certain portions of the signal. In this scheme, the entire pulse is shaped synchronously, effectively using the auxiliary pulse to “mold light with light”. These offer opportunities to control and interact with electromagnetic waves in new ways.

Research Concentration Areas: In this initiative, PIs will develop and employ rigorous analytical and numerical models to investigate the microscopic non-equilibrium physics behind energy exchanges in time-varying metamaterials and use these insights to report new paradigms for extreme frequency manipulation and pulse shaping and to explore new implementations of time metamaterials for high-power electromagnetics. As an exciting demonstration of these concepts, the PI will explore the idea of efficient frequency up-conversion. Coherent control of temporal scattering can enable frequency translation with unitary efficiency at (in principle) zero energy cost and high speed. It is anticipated that this phenomenon achieves a “perfect” trading of energy between photon number and energy per photon, whereby a fixed amount of energy carried by a distribution of photons of a certain frequency is redistributed to a different distribution of photons at a new frequency, with identical energy content. Phenomenologically, this can be achieved as the presence of two identical counterpropagating electromagnetic waves creates a standing-wave, whereby all the energy is periodically exchanged between the electric and the magnetic fields. By applying a time-interface which changes the dielectric permittivity of the host material at the instant when all the energy is stored in the magnetic field, the frequency of the wave is converted with unitary efficiency, while the total electromagnetic energy is conserved as the change in dielectric constant cannot affect the magnetic fields, where all the energy is contained. PIs will explore the application of these concepts to realize time-metamaterials relevant for the following application:

Amplification: Can users employ time-metamaterials to realize amplification and energy exchanges in the context of high-power sources?

Wireless power transfer: Wireless power transfer on a variety of length and power scales has become of interest for solving logistical challenges. The state-of-the-art for converting RF to DC power is the diode rectifier, which has a number of loss mechanisms which make it difficult to achieve high efficiencies including impedance matching, device parasitics, and harmonic generation, which may be reduced or limited by understanding and implementing the physics developed through these efforts.

Anticipated Resources: It is anticipated that awards under this topic will be no more than \$200,000 per year for three (3) years, supporting this research. Exceptions warranted by specific proposal approaches should be discussed with the topic chief.

Research Topic Chief:

Dr. Arje Nachman, AFOSR/RTB, arje.nachman@us.af.mil, 703-696-8472

3. Electrochemistry

Title: Energy for Agility - Controlling Reactivity at Electrochemical Interfaces

Background: Energy agility in military systems in air and space requires methods of energy storage and transduction that can be easily transported, relatively lightweight, and release their energy quickly on demand. Many systems such as batteries, fuel cells, and electrosynthesis or electrocatalysis of chemical fuels can store and release energy via electrochemical transformations at electrodes. The fundamental processes that underpin and control the important physical, chemical, and materials behavior in many of these systems occur at liquid-solid interfaces, which can be quite complex due to, for example, the evolving nature of the interface, large interfacial electric fields, ion diffusion and mobility, and solvent reorganization and dynamics. Studies and simulations of processes occurring at the electrical double layer that forms at the solid-liquid interface comprise an exciting area of frontier research that has the promise to greatly impact many of these energy technologies. Emerging ab initio and statistical molecular-level simulation methods capable of describing chemical transformations at complex interfaces, and new experimental probes of these interfaces can create a qualitatively new and important way to address this regime. These new molecular-level diagnostic and simulation tools can help provide a better understanding of reaction mechanisms and factors controlling overpotential and selectivity in electrochemical processes, model electron and proton transfer at surfaces, and elucidate the effects of interfacial fields and solvent dynamics at electrochemical double layers. By understanding and controlling processes at the electrical double layer, we hope to be able to affect the kinetic rates, selectivity, and energy efficiency of electrochemical processes and improve the performance of many of

these energy-related systems. This improved rational design of electrochemical processes that couples kinetics, mechanics, and electrochemistry can lead to new battery systems and greatly enhance numerous energy storage and utilization methods.

Objective: We seek the development and concerted application of new molecular-level methods to predict and/or control the rates of electrochemical processes at solid/liquid interfaces. In particular, methods that can better simulate, measure, or control the properties of the electrical double layer to affect the kinetics of reactions are of particular interest.

Research Concentration Areas: Areas of interest include, but are not limited to:

1. Development and application of molecular simulation methods to identify the dynamic behavior of solvent motion and reorganization at and around electrodes and identifying their effects on electrochemical and electrocatalytic processes.
2. Studies of the real-time kinetic and dynamic behavior occurring at solid-liquid interfaces and electrochemical double layers in electrochemical processes;
3. Development of design principles for controlling specific kinetic parameters of electrochemical reactions by tuning the electrochemical environment and applied electric fields/voltage.

Anticipated Resources: It is anticipated that awards under this topic will be no more than \$200,000 per year for three (3) years, supporting this research. Exceptions warranted by specific proposal approaches should be discussed with the topic chief.

Research Topic Chief:

Dr. Michael R. Berman, AFOSR/RTB, michael.berman@us.af.mil, 703-696-7781,

4. Space Architectures

Title: Collaborative Resource Sharing for Proliferated Space Architectures

Background: Rapidly maturing space-to-space mega-constellation satellite communications along with early demonstrations of space-to-space power beaming, are emphatically demonstrating the feasibility of resource sharing among satellite constellations. Fortunately, continued rapid progression of multiple existing technology areas (for example, high power/efficiency visible and IR lasers/optics and lightweight solar power generation) are likely to incrementally advance delivered capabilities in these technology areas. However, deliberate attempts to integrate multiple resources sharing strategies and uncover synergistic new capabilities from deliberate collaborative proliferated architecture design have been relatively poorly studied. We believe that opportunities exist for a paradigm shift towards more robust resource sharing proliferated architectures – extending across shared communications, power transfer, momentum

transfer, thermal management, etc. – and exploiting the vast new set of capabilities enabled by these new architectures.

Objective: This research concentration area seeks proposals which identify and address underlying basic research questions pertinent to collaborative resource sharing in vacuum or near-vacuum environments. This includes both potential breakthroughs which may impact future hardware as well as exploring the new capabilities emerging from collaborative resource sharing deliberately integrated into future proliferated space architectures. Fundamental limitations anticipated by the proposed hardware/architecture design should be explored to highlight new areas for future innovation.

Research Concentration Areas: Research foci may include, but are not limited to:

1. Breakthrough insight into DC-to-photon generation – potential research investigation may inform a future of new, high efficiency, thermally stable, large aperture, short wavelength photon sources.
2. Novel schemes for photon-based momentum/energy transfer – direct energy capture (e.g., photoelectric / thermoelectric / rectification) and/or combined strategies for power/momentum sharing (e.g. open-cavity lasers) are encouraged.
3. Innovative strategies to tackle extreme thermal management challenges inherent to high power lasers and monochromatic energy extraction –new materials and topologies (including meta-surfaces) to enable passive and/or active thermal regulation strategies under extreme photon fluxes conditions.
4. Exploration of new capabilities (e.g. plane changes or orbit raising of a single satellite through interaction with the constellation) and constraints of networked energy and momentum transfer.

Successful proposals will tackle the challenges associated with tightly integrated sharing across multiple resource types and identify/quantify meaningful synergies from the proposed proliferated space architecture designed explicitly for collaborative resource sharing. Research ideas in the spirit of this research concentration area that has not specifically outlined above are also encouraged.

Anticipated Resources: This topic will accept single and/or multi-investigator proposal up to \$750,000 per year for three (3) years. Exceptions warranted by specific proposal approaches should be discussed with the topic chiefs.

Research Topic Chiefs:

Dr. Justin Koo, AFOSR/RTA, justin.koo@us.af.mil, 703-696-8568

Dr. Andrew Sinclair, AFOSR/RTB, andrew.sinclair.2@us.af.mil, 703-696-1141

Dr. Michael Yakes, AFOSR/RTB, michael.yakes@us.af.mil, 703-835-6716

Please email all topic chiefs with any technical inquiries you may have.

D. APPLICATION CONTENT AND FORMAT

1. Pre-Proposal Inquiries and Questions

You are encouraged to contact the Program Officer listed in section [A.9.a](#). Technical Inquires and Questions before you submit your proposal.

If you need help with general matters, you should contact the individual listed in [A.9.b](#). General Announcement Questions.

Your pre-proposal inquiries and questions should be submitted not later than 11:59 PM Eastern Daylight Time on 16 JAN 2025. AFOSR may not be able to answer questions received later. This is discussed more in section [E.5.a](#). Submission Dates and Times.

The Program Officer does not have the authority to make commitments for the government. Grants and Contracting Officers acting within their warranted capacity are the only people authorized to make commitments for the Government.

2. The Application as a Whole

You must submit your proposal electronically through Grants.gov. We will not accept or evaluate any proposal submitted by any means other than through Grants.gov. You must use the electronic Standard Form (SF) 424 Research and Related (R&R) Form Family, OMB Number 4040-0001. The SF-424 (R&R) Application for Federal assistance form must be your cover page. No pages may precede the SF-424 (R&R).

You may submit a proposal for one or more topics, or for a specific portion of a topic. You may submit different proposals on any number of topics, or different proposals on the same topic. We may not make awards in every topic area. You must mark your application with the announcement number.

A summary of what is required for a complete proposal is summarized below:

- We require the forms and attachments in bold text with all applications
- Some applications require the attachments in italics
- We provide more instructions in [D.3.a](#). Component Pieces of the Application

R&R FORM, OMB No. 4040-0001	FIELD	ATTACHMENT
SF-424 (R&R) Application for Federal Assistance, including an authorized signature	18.	If applicable, SF- LLL Disclosure of Lobbying Activities Per instructions in H.1.c.
R&R Other Project Information Form	7.	Project Summary / Abstract

	8.	Project Narrative
	9.	Bibliography & References Cited
	10.	Facilities and Other Resources
	11.	Equipment
	12.	Other Attachments
R&R Senior / Key Person Profile Form (Expanded)		Biographical Sketch
		Current & Pending Support
R&R Personal Data Form		None
R&R Budget Form		Budget Justification
R&R Subaward Budget Attachments Form		Subaward Budget
R&R Project / Performance Site Locations Form		None

The SF-424 (R&R) must include the signature of an authorized representative from your organization. The signature is affixed electronically by Grants.gov upon submission. You are still required to submit any documentation, including disclosure of any unpaid delinquent tax liability and/or a felony conviction under any Federal law (see FAR 52.209-11). This signature is considered the signature for the application as a whole.

a) **Proposal Format**

- (i) Paper Size – 8.5 x 11-inch paper
- (ii) Margins – 1 inch
- (iii) Spacing – Single, 1.5, or 2.0-line spacing
- (iv) Font – Times New Roman or Garamond, 10, 11, or 12point
- (v) Page Limitation – No more than twenty-five (25) single-sided pages. The cover page, table of contents, list of references, letters of support, curriculum **vitae** and list of on- going and pending research support are excluded from the page limitations. The pages of proposals exceeding the page limit may not be included in the evaluation.
- (vi) Attachments – Electronic Portable Document Format (PDF)

(vii) Content – As described below

b) Proposal Length

No more than twenty-five (25) single-sided pages. This page count includes the following sections: Project Summary/Abstract, the Project Narrative, and the Bibliography & References. You must not include elaborate brochures, reprints, or presentations beyond those sufficient to present a complete and effective proposal.

AFOSR will not consider more than the maximum number of pages in its evaluation; however, not all pages are counted. This list below is intended to help you understand how to calculate your page count.

NOT INCLUDED IN PAGE COUNT

- SF-424 (R&R) Application for Federal Assistance and all attachments
- R&R Budget and Budget Justification attachments, R&R Other Project Information Form, and all attachments
- R&R Sub award and Budget Justification attachments, R&R Senior/Key Person Profile Form, and all attachments for the personnel
- Documents that support the budget or particular items of cost R&R Project/ Performance Site Locations Form
- Optional R&R Personal Data Form
- Budget related information is not included in the page count because AFOSR cannot make an award unless it can determine the cost of your proposal is reasonable and realistic and complies with [2 CFR 200 Subpart E - Cost Principles](#).
- Not having enough information in your proposal to understand if your costs are reasonable and realistic is the most common reason awards are delayed.

c) Marking Requirements for Confidential or Proprietary Information

You must *not* include confidential or proprietary information in your proposal. This was also discussed earlier in section [C. Program Description](#). AFOSR will not consider your proposal if you include confidential or proprietary information or place restrictive markings on any part of your proposal. Because your proposal shouldn't include proprietary information, there shouldn't be a need for marking the proposal.

d) Application Form and Proposal Attachment

Your application and proposal attachments must be in electronic file formats. You should use the Portable Document Format (PDF) for your attachments.

DO NOT password protect any attachments.

The website <https://grants.gov/applicants/adobe-software-compatibility> provides additional important instructions.

3. Components Pieces of the Application

a) SF-424 (R&R) Application for Federal Assistance Form

The SF-424 (R&R) Application for Federal assistance form must be your cover page. No pages may precede the SF-424 (R&R).

Complete all required fields in accordance with the “pop-up” instructions on the SF-424 (R&R) form. The completion of most fields is self-explanatory. You can turn on Grants.gov “Help Mode” to provide additional instructions for forms. “Help Mode” is turned on by the icon with the pointer and question mark at the top of the form.

We have special instructions for completion of several SF-424 (R&R) form fields in your application.

Our instructions are:

FIELD	INSTRUCTION
2.	You may leave “Applicant Identifier” blank
3.	You may leave “Date Received by State” and “State Application Identifier” blank
9.	You must list Air Force Office of Scientific Research as the Federal Agency if Grants.gov has not pre-populated this answer
16.	You should check “No.” and “Program is Not Covered by Executive Order 12372”
17.	Select “I Agree” to: Certify that all statements in the proposal, your, and Internal Confidentiality Agreements are true, complete, and accurate to the best of your knowledge. See section H.1 Administrative and National Policy Requirements for more information and links to the full text of these items.
18.	You must attach the completed SF-LLL Disclosure of Lobbying Activities if your grant amount exceeds \$100,000 and have lobbying activity to disclose. See section H.1. Administrative and National Policy Requirements for more information.

b) R&R Other Project Information Form

Complete this form as indicated. You must include all necessary attachments.

FIELD	INSTRUCTION
1, 1a.	You must address all prospective human subject involvement by answering these questions. Additional documentation pursuant to National Policy and U.S. Air Force and Space Force standards is required for all proposals with human use research or involvement.
2, 2a.	You must address all prospective animal research and/or recombinant deoxyribonucleic acid (rDNA) involvement by answering these questions. Additional documentation pursuant to National Policy and U.S. Air Force standards is required for all proposals with animal or rDNA research or involvement.
4a.	For any proposal that has an actual or potential impact on the environment, answer yes and provide the answers and attachments required for fields 4b, 4c, and 4d. Additional documentation in accordance with National Policy and U.S. Air Force and Space Force standards is required for any proposal with an actual or potential impact on the environment.
7.	Attach your D.3.c. Publicly Releasable Abstract
8.	Attach your D.3.d. Project Narrative
9.	Attach your D.3.e. Bibliography and References Cited
10.	Attach a Facilities and Other Resources description document here if you need to supplement your D.3.d.iv. Proposal Narrative facilities and resources section.
11.	You may supplement your D.3.h. Budget Justification by attaching an Equipment Justification here. Do not duplicate information included on your budget justification. If you attach an Equipment Justification, make sure you reference the attachment in your budget justification.
12.	<p>Attach the D.3.i R&R Subaward Budget Attachments Form if applicable and not attached elsewhere. You should have budgets for all subawards proposed attached within this form before attachment.</p> <p>Attach all D.3.j Subaward Budget Justifications as applicable Attach your D.3.i. Data Management Plan here if applicable</p>

c) Publicly Releasable Project Summary/Abstract

You must attach the Project Summary/Abstract to field 7 of the R&R Other Project Information form.

You must submit the “AFOSR Abstract” as an attachment with the proposal submission, this form is located on the “Related Documents” tab of grants.gov. You must provide a concise abstract of 300 words or less with your proposal (no more than 2000 characters). You must mark this abstract publicly releasable. Your abstract should use terms the public can understand to describe the research objective, technical approach, anticipated outcome, and potential impact of the specific research.

Enter the Project Summary/Abstract on the form as a single block of plain text. Do not use special formatting such as line breaks, tables, or superscript/subscript. Do not use special characters or symbols such as μ , λ , γ , π , $\&$, $;$, $/$, \backslash , $“$, or $?$.

Your abstract header should include the Program Officer's name and office symbol from section [A.9.a](#). Technical Inquiries and Questions above.

If you receive an award, we must publish your abstract to a searchable website available to the general public in accordance with Public Law 113-235. The website address is <https://discover.dtic.mil/submit-documents/>.

d) Project Narrative

You must attach the Project Narrative to field 8 of the R&R Other Project Information Form. The narrative must be complete and self-contained to qualify for review.

You must clearly describe your research, including your research objective and approach. Your project narrative will be evaluated using the section [F.1. Criteria](#). You should show strength in as many of the evaluation and selection areas as practicable to demonstrate maximum competitiveness.

You must describe any environmental impacts of your research outside the laboratory in any appropriate narrative section, including how you will ensure compliance with environmental statutes and regulations.

Your narrative should include the following elements:

(i) Statement of Objectives

You must summarize your proposed research on a single page titled “Statement of Objectives.” We may decide to incorporate your statement of objectives into the award as a description of the work instead of incorporating the whole technical proposal. You should use active verbs when you prepare the statement of objectives, e.g., “conduct” research in a subject area, “investigate” a problem, “determine” to test a hypothesis.

(ii) Research Effort

- (a) You should describe the research you plan in detail. State the research objectives and approach, and the relationship and comparable objectives to research progress elsewhere. Describe your research team's knowledge in the field and discuss the nature of the expected results.
- (b) The adequacy of this information will influence the overall evaluation in accordance with the criteria and procedures specified in section E. Application Review Information below.

(iii) Principal Investigator (PI) and Senior Personnel Time

- (a) You must provide estimate of time the principal investigator and other senior professional personnel will devote to the research. Your estimate must include information pertaining to the proportion of time anticipated devoted to this research, to other research, and to other commitments of time such as sabbatical, extended leave, and teaching duties.
- (b) State the number of graduate students for whom each senior staff member is responsible.
- (c) If your principal investigator or other key personnel have current, pending, or expected research supported by other sponsors or agencies during the period you seek our 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. You must attach a list of Current and Pending Support for each person listed on the [D.3.f. R&R Senior / Key Person Profile \(Expanded\) Form](#). Each abstract should include research title, objectives, approach, and budget for both present and pending research projects. Send any changes as they become known.

(iv) Your Facilities

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

(v) Government Furnished Equipment

You may list any special Government-owned property or test equipment required to complete the research. When possible and practicable, give a description or title for each item, the current location, and an estimated cost as applicable. If you do not have information about individual items, group items you require by class and provide an estimate of values.

(vi) High Performance Computing Requirements

You may be eligible to use DoD high performance computing resources at no cost to your research. You should address utilization of this program if you need high performance computing cycles to meet the needs of your research. This program provides access to a range of state-of-the-art high performance computing assets and user training opportunities that can be used in some of our awards; special terms and conditions apply. You can review the details, capabilities, and requirements of the program at www.hpc.mil. Our Program Officers will help you establish an account if your proposal is selected for an award and can answer questions before you submit your proposal.

e) Bibliography & References

You must attach your narrative Bibliography and References to field 9 of the R&R Other Project Information Form.

f) R&R Senior/Key Person Profile (Expanded) Form

You must attach a short biographical sketch and list of significant publications (vitae) for each Senior/Key Person. You must also attach a list of current and pending support as discussed in Principal Investigator (PI) and Senior Personnel Time.

You must list all key persons proposed for the research on the R&R Senior/Key Person Profile (Expanded) Form. Key persons are generally the PI, any Co-PIs, and senior staff. We use this information to evaluate the qualifications of you and your research team.

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. A subsection 1681 Et. Seq.), the DoD 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 applicant must include this form completed as indicated.

The Credential, e.g., agency login field will be used by DoD to track ORCID for each researcher. In addition to the required fields on the form, applicants must complete this field for all individuals that are identified on the form.

The Degree Type and Degree Year Fields 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.

g) R&R Budget Form

You must provide all information requested. You must estimate the total research

project cost. You must categorize funds by year and provide separate annual budgets for projects lasting more than one year. A budget justification must be included.

You must include enough budget related information in your proposal to support your costs as reasonable and realistic, and in compliance with [2 CFR 200 Subpart E - Cost Principles](#).

Not having enough information in your proposal to understand if your costs are reasonable and realistic is the most common reason awards are delayed.

h) R&R Budget Justification

You must provide a detailed budget justification for each year that clearly explains the need for each item.

The entire budget justification and supporting documentation must be combined into a single file and attached to field L of the R&R Budget Form. The budget narrative submitted with the application must match the dollar amounts on all required forms.

Please explain each calculation and provide a narrative that supports each budget category. This detailed budget justification must match the proposed budget categories. Each year of the budget justification narrative must stand alone; lump sum budget justifications are not allowed. If options are proposed, option detailed budget justifications must stand alone as well, no lump sum justifications allowed.

(i) You must itemize travel. Estimate the cost and purpose of each trip proposed, the number of trips, the number of travelers, the destination, the duration, and the basis for calculating costs such as airlines and hotels.

Below is a sample of the travel portion:

TRAVEL	Unit	Trips	Travelers	Nights	Days	Unit Cost	Total Travel
Airfare	roundtrip	1	1			\$900.00	\$900.00
Lodging	day	1	1	3		\$75.00	\$225.00
Per Diem	day	1	1		3	\$40.00	\$120.00
Automobile Rental	day	1	1		3	\$45.00	\$135.00
Subtotal Travel		4	4	3		\$1,060	\$1,380.00

(ii) You must itemize materials/supplies. List all material/equipment by type and kind with associated costs. Indicate what your costs are based on, such as vendor quotes, historical data and/or engineering estimates. You should include vendor quotes and/or catalog pricing data.

(iii) Proposals including request to purchase equipment *must* include equipment quotes or vendor agreements. "Equipment" is nonexpendable, tangible personal property with a unit cost of \$10,000 or more having a useful life of more than 1 year, unless determined otherwise by recipient's internal policy. Items that do not meet the "equipment" definition can be included under supplies. List each piece of equipment to be purchased and provide description of how it will be used in the project. Budget narrative should explain why the equipment is necessary for successful completion of the project. Provide quotes in English Language (US Dollars) if available or indicate the basis of equipment cost. If you have any subaward(s), you should describe how you determined subaward costs were determined fair and reasonable. Your business office usually makes this determination.

(iv) DHHS/ONR Rate Agreement: If you use a government rate agreement to propose indirect cost rates, fringe benefit rates, and/or tuition remission rates, you must attach a signed DHHS or ONR copy of the agreement you used to not delay the negotiation process.

(v) Helpful Cost Principle Reference Information

(a) [2 CFR 200, Subpart E – Cost Principles](#)

(b) General Provisions for Selected Items of Cost in 2 CFR 200.420 through 2 CFR 200.475

i) **R&R Subaward Budget Attachment Form**

You must attach all subaward budgets to field 12 of the R&R Other Project Information Form.

You must provide a budget at the same level of detail as your [D.3.g.](#) Prime budget for each proposed subaward. A subaward budget justification must be attached.

j) **Subaward Budget Justification**

You must attach all subaward budget justifications to field 12 of the R&R Other Project Information Form.

You must provide a subaward budget justification at the same level of detail as your [D.3.h.](#) prime budget justification for each proposed subaward.

k) R&R Project/Performance Site Locations Form

You must complete all information as requested. You must include the ZIP+4 for each performance location you list.

l) Data Management Plan

A data management plan is a document that describes which data generated through the course of the proposed research will be shared and preserved and how this will be done, explains why data sharing or preservation is not possible or scientifically appropriate, or why the costs of sharing or preservation are incommensurate with the value of doing so. See also: [DoD Instruction 3200.12](#). Your Data Management Plan should be attached to field 12 of the R&R Other Project Information Form.

Your “Data Management Plan” should be two (2) pages or less in length and discuss:

- (i) The types of data, software, and other materials to be produced in the course of the project and include a notation marking items that are publicly releasable.
- (ii) How the data will be acquired.
- (iii) Time and location of data acquisition if they are scientifically pertinent.
- (iv) How the data will be processed.
- (v) The file formats and the naming conventions that will be used.
- (vi) A description of the quality assurance and quality control measures during collection, analysis, and processing.
- (vii) If existing data are to be used, a description of their origins.
- (viii) A description of the standards to be used for data and metadata format and content.
- (ix) Plans and justifications for archiving the data.
- (x) The timeframe for preservation.
- (xi) If for legitimate reasons the data cannot be preserved, the plan must include a justification citing such reasons.

m) R&R Personal Data Form

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. A subsection 1681 Et. Seq.), The DoD 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 applicant must include this form completed as indicated.

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, provisions 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 this information should check or select the “Do not wish to provide” option.

4. **Information You Must Submit If Selected for Possible Award**

We may request additional necessary information from you during negotiations, or as required for award considerations. *You must respond promptly.*

If you do not fully comply with our information requests by the time we are ready to make an award, we may determine that you are not qualified to receive an award and use that determination as a basis for making an award to another applicant.

If your proposal includes human, animal, or rDNA research or involvement you must submit all documentation requested during negotiations or you may not receive an award.

Foreign recipients must complete a payment information form to receive wire transfer payments. This form will be requested if selected for award.

E. SUBMISSION REQUIREMENTS AND DEADLINES

1. **Address to Request Application Package**

All the application forms you need are available electronically on Grants.gov. From the “View Grant Opportunity” page, you can click on the “Application Package” tab to download the application package.

You can find the electronic application package on Grants.gov by searching for the announcement number shown on page one. Paper copies of this announcement will not be issued.

Please contact us at afosr.baa@us.af.mil to request a reasonable accommodation for any accessibility requirements you may have.

2. **Unique Entity Identifier and System for Award Management (SAM)**

a) **SAM Registration Required**

As required in [2 CFR 25.110](#) all applicants, unless exempted, must:

(i) Be registered in [SAM.gov](#) before submitting its application.

(ii) Provide a valid UEI; and

(iii) Continue to maintain an active SAM registration with current

information at all times any Federal award is active, or any application is under consideration by a federal awarding agency.

A Commercial and Government Entity (CAGE) code is obtained or specified as part of the SAM registration process. A CAGE code is required.

- b) **SAM Exemption or Exceptions Not Available Under This Announcement**
We will not issue an Agency level exemption to SAM registration under [2 CFR 25.110\(a\)\(1\)](#) for applicants under this announcement. You must comply with SAM registration requirements and include a UEI and CAGE code on your application or we cannot make an award.

Questions about SAM Registrations and Updates

You can get questions about SAM registration and entity updates answered by live chat at https://www.fsd.gov/gsafsd_sp and telephone at (866) 606-8220.

- c) **Consequences of Non-Compliance with SAM Registration Requirements**
We cannot make an award to you unless you comply with SAM requirements. If you are non-compliant, we may determine you are not qualified to receive an award and use that determination to make an award to someone else as authorized by [2 CFR 25.205\(b\)](#). You cannot receive payments without an active SAM record and CAGE.

3. **Submission Instructions & Grants.gov Application Registration**

a) **Electronic Delivery**

AFOSR is participating in the Grants.gov initiative to provide the grant community with a single site to find and apply for grant funding opportunities. AFOSR requires applicants to submit their applications online through Grants.gov.

b) **How to Register to Apply through Grants.gov**

Instructions: Read the instructions below about registering to apply for AFOSR funds. Applicants should read the registration instructions 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.

The registration process can take up to four 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.

If individual applicants are eligible to apply for this grant funding opportunity, refer to: <https://www.grants.gov/applicants/applicant-registration>

Organization applicants can find complete instructions here:
<https://grants.gov/applicants/applicant-registration/>

- (i)** Obtain an ORCID for all key personnel. All individuals listed on the Senior/Key Person form must have an Open Researcher and Contributor ID (ORCID). As of September of 2024, the DoD is requiring all proposers to include a digital persistent identifier (DPI) for each senior or key person listed in a proposal. The DoD will require proposers to include the ORCID number for each senior or key person listed in a proposal for an assistance award for R&D. ORCID numbers will be used since ORCID is currently the only DPI provider that meets the requirements for DPI common or core standards in the NSTC NSPM-33 implementation guidance. For more detailed instructions for obtaining an ORCID number, refer to: [How do I register for an ORCID ID? – ORCID](#)
- (ii)** Obtain a UEI Number: All entities applying for funding, including renewal funding, must have a Unique Entity Identifier (UEI). As of April of 2022, the federal government stopped using the DUNS number to uniquely identify entities registered in the System for Award Management (SAM). At that point, entities doing business with the federal government will use a Unique Entity Identifier (UEI) created in SAM.gov. They will no longer have to go to a third-party website to obtain their identifier. Active registrants will have their UEI assigned and viewable within SAM.gov; there is no action for registered entities to take at this time. This transition allows Federal Agencies to streamline the entity identification and validation process, making it easier and less burdensome for entities to do business with the federal government.

For more detailed instructions for obtaining a UEI number, refer to:
<https://sam.gov/content/entity-registration>.

- (iii)** Register with SAM: In addition to having a UEI number, organizations applying online through Grants.gov must register with the System for Award Management (SAM). All organizations must register with SAM in order to apply online. Failure to register with SAM will prevent your organization from applying through Grants.gov.

For more detailed instructions for registering with SAM, refer to:
<https://sam.gov/content/entity-registration>

- (iv)** Create a Grants.gov Account: The next step in the registration process is to create an account with Grants.gov. Applicants must know their organization's UEI number to complete this process. Completing this process automatically triggers an email request for applicant roles to the organization's E-Business Point of Contact (EBiz POC) for review. The EBiz POC is a representative from your organization who is the contact listed for SAM. To apply for grants on behalf of your organization, you will need the Authorized Organizational Representative (AOR) role.

For more detailed instructions about creating a profile on Grants.gov, refer to:
<https://grants.gov/applicants/workspace-overview>

- (v) Authorize Grants.gov Roles: After creating an account on Grants.gov, the EBiz POC receives an email notifying them of your registration and request for roles. The EBiz POC will then log in to Grants.gov and authorize the appropriate roles, which may include the AOR role, thereby giving you permission to complete and submit applications on behalf of the organization. You will be able to submit your application online any time after you have been approved as an AOR.

For more detailed instructions about creating a profile on Grants.gov, refer to:
<https://grants.gov/applicants/workspace-overview>

Track Role Status: To track your role request, refer to:
<https://grants.gov/applicants/applicant-registration/track-profile-role-status>

- (vi) Electronic Signature: When applications are submitted through Grants.gov, the name of the organization's AOR that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The EBiz POC must authorize individuals who are able to make legally binding commitments on behalf of the organization as an AOR; **this step is often missed, and it is crucial for valid and timely submissions.**

4. Application Submission and Receipt Procedures

This section provides the application submission and receipt instructions for AFOSR program applications. Please read the following instructions carefully and completely.

a) How to Submit an Application to AFOSR via Grants.gov

Grants.gov applicants can apply online using Workspace. Workspace is a shared, online environment where members of a grant team may simultaneously access and edit different web forms within an application. For each funding opportunity announcement (FOA), you can create individual instances of a workspace.

Below is an overview of applying on Grants.gov. For access to complete instructions on how to apply for opportunities, refer to:

<https://grants.gov/applicants/grant-applications/how-to-apply-for-grants>

b) Create a Workspace

Creating a workspace allows you to complete it online and route it through your organization for review before submitting.

c) Complete a Workspace

Add participants to the workspace, complete all the required forms, and check for errors before submission.

- Adobe Reader: If you decide not to apply by filling out web forms you can download individual PDF forms in Workspace so that they will appear similar to other Standard or administering agency forms. The individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader.

NOTE: Visit the Adobe Software Compatibility page on Grants.gov to download the appropriate version of the software at: <https://grants.gov/applicants/adobe-software-compatibility>.

- Mandatory Fields in Forms: In the forms, you will note fields marked with an asterisk and a different background color. These fields are mandatory fields that must be completed to successfully submit your application.
- Complete SF-424 Fields First: The forms are designed to fill in common required fields across other forms, such as the applicant's name, address, and UEI number. To trigger this feature, an applicant must complete the SF-424 information first. Once it is completed, the information will transfer to the other forms.

d) Submit a Workspace

An application may be submitted through workspace by clicking the Sign and Submit button on the Manage Workspace page, under the Forms tab. Grants.gov recommends submitting your application package at least 24-48 hours prior to the close date to provide you with time to correct any potential technical issues that may disrupt the application submission.

e) Track a Workspace

After successfully submitting a workspace package, a Grants.gov Tracking Number (GRANTXXXXXXXX) is automatically assigned to the package. The number will be listed on the Confirmation page that is generated after submission.

For additional training resources, including video tutorials, refer to:

<https://www.grants.gov/applicants/applicant-training.html>

Applicant Support: Grants.gov provides applicants 24/7 support via the toll-free number 1- 800-518-4726 and email at support@grants.gov. For questions related to the specific grant opportunity, contact the number listed in the application package of the grant you are applying for.

If you are experiencing difficulties with your submission, it is best to call the Grants.gov Support Center and get a ticket number. The Support Center ticket number will assist the administering agency with tracking your issue and understanding background information on the issue.

5. Submission Dates and Times

- a) **Pre-Proposal Inquiries and Question Deadline:** White papers are strongly suggested, but not required. If a white paper is submitted, it should be submitted no later than 31 JAN 2025 at 11:59 PM Eastern Time. Responses will be emailed by 14 FEB 2025 by close of business. If no white paper is submitted, no response will be provided.

If there are other pre-proposal inquiries or questions, that do not pertain to white papers, those should be submitted, by electronic mail, no later than 28 FEB 2025 at 11:59 Eastern Time. Responses will be provided publicly, via Grants.gov, by 14 MAR 2025. The purpose of providing the response publicly is so everyone has the same information. If the particular inquiry or questions requires a specific response, it will be provided by 14 MAR 2025, by close of business.

- b) **How Pre-Proposal Inquires and Question Time is Determined**
AFOSR uses the date and time stamp on your email to determine when you submitted pre-proposal correspondence. These emails should be directed to the contact listed at the end of this FOA for general inquiries and questions (julia.carrico@us.af.mil).
- c) **Effect of Missing Pre-Proposal Inquiries and Questions Deadline**
AFOSR will not provide responses or answers to late inquires or questions.
- d) **Proposal Submission Deadline**
AFOSR must receive your white paper by 31 JAN 2025 at 11:59 PM Eastern time for it to be considered.

AFOSR must receive your proposal electronically through Grants.gov not later than 01 APR 2025 at 11:59 PM Eastern time to be considered for selection. This is the final due date. AFOSR recommends that you submit applications earlier than this deadline, in case there are technical issues.

You are responsible for making sure your application is submitted, received, **and validated** by Grants.gov before the application deadline. If you submit your application late, your proposal is not eligible for consideration.

- e) **How Proposal Submission Time is Determined**
AFOSR uses the system-generated Grants.gov time stamp to determine when you submitted your successfully validated proposal. Grants.gov policies and procedures for application submission and processing apply. AFOSR will only accept applications submitted electronically through Grants.gov.

f) **Grants.gov Tracking Number is Application Receipt**

Grant.gov generates a confirmation page when you submit your application. A second confirmation is provided by email when your application has passed Grants.gov validations and the status is updated from received to validated.

The confirmation page includes a system-generated Grants.gov tracking number; this serves as your receipt. You should keep a copy of all confirmations.

You can verify the submission time and application status with your tracking number through Grants.gov at <https://www.grants.gov/applicants/grant-applications/track-my-application>.

g) **Effect of Missing the Proposal Submission Deadline**

Grants.gov will not accept your proposal after the submission deadline. AFOSR will not accept proposals submitted other than electronically through Grants.gov.

6. **Intergovernmental Review**

N/A - This program is excluded from coverage under Executive Order (E.O.) 12372.

7. **Funding Restrictions**

a) **Proposal Preparation Costs**

Your proposal or application preparation costs are not considered an allowable direct charge to any award under this announcement. Your costs are, however, an allowable expense to the normal bid and proposal indirect cost as specified in [2 CFR 200.460 Proposal costs](#).

b) **Pre-Award Costs**

You must request our prior approval if you need more than ninety (90) days pre-award cost authorization as described in [2 CFR 200.308\(e\)\(1\)](#) and [2 CFR 200.458](#).

Your business office must provide this request in writing.

You must document why pre- award costs are necessary and essential for the research in the request and identify a specific date for our Grants Officer to consider. We will only consider approval of a specific date of more than ninety (90) days pre-award costs before an award is made.

Our grants include up to ninety (90) calendar days pre-award costs; however, the actual date costs become allowable is not final until an award is made and an effective date established. We recommend you ask for a specific date as described above to prevent misunderstandings.

All costs incurred before a grant or cooperative agreement award are at the recipient's risk as described in [2 CFR 200.308\(e\)\(2\)](#). We are under no obligation to reimburse your costs if for any reason you do not receive an award, or if your award is less than anticipated and inadequate to cover your pre-award costs.

c) **Air Force Office of Scientific Research No-Cost Extension (NCE) Policy**

We require prior written approval to extend the period of performance, whether with or without additional funds, beyond the expiration date of the grant. We only grant no-cost extensions when they are truly warranted and properly documented. For an extension to be granted, all NCE requests must be received at least thirty (30) days prior to the expiration of the grant's period of performance.

All Principal Investigators (PIs) business offices must submit NCE requests through the following website: https://community.apan.org/wg/afosr/p/nce_request. AFOSR will no longer accept NCE requests via email. All requests that are submitted through other avenues will have to be re-routed through the above website.

The NCE request must include:

- (i) Request letter from the business office on University's or Institute's letterhead.
- (ii) Compelling reason(s) for the extension beyond using unexpended balances.
- (iii) Original end date and requested extension length.
- (iv) SF-425 Federal Financial report showing the unexpended funds remaining or the most recent SF-270 Request for Advance or Reimbursement
- (v) Statement indicating all required previous annual reports have been provided to AFOSR.

In no event will the period of performance be extended merely for the purpose of using unexpended balances. Every effort should be made to ensure work is completed on time.

8. **Other Submission Requirements**

If Grants.gov rejects your electronic application submission for any reason, you must correct all errors and resubmit your application before the [E.5.d](#). Proposal submission deadline.

F. APPLICATION REVIEW INFORMATION

1. **Criteria**

You should show strength in as many of the evaluation and selection areas as practicable to demonstrate maximum competitiveness.

a) **Principal Evaluation and Selection Criteria**

The two (2) principal selection criteria are specified in [32 CFR 22.315\(c\)](#). The principal selection criteria are of equal importance to each other. The combined principal selection criteria are more important than the additional evaluation and selection criterion. The principal selection criteria are:

- The technical merits of the proposed research.
- Potential relationship of the proposed research and development to Department of Defense missions. This will be assessed based on the merits of the proposed collaboration plan and the potential for transition to AFRL development efforts.

b) Additional Evaluation and Selection Criteria

An additional evaluation criterion is shown below. This criterion is less important than the combined principal selection criteria.

The applicant, principal investigator, team leader, and key personnel qualifications, capabilities, related experience, facilities, and research techniques considered individually and in combination that are integral to achieving DoD objectives for this program.

No further criteria or criterion will be used for proposal selection

2. Review and Selection process

a) Merit based, Competitive Procedures

Proposals will be subjected to a peer or programmatic review. The peer review will use internal and/or external reviewers to assess technical merit and Air Force relevance of the proposal.

The programmatic review assesses the technical quality of the proposal, relevance of the proposed research to the portfolio descriptions in this NOFO, relevance of the work to Air Force, Space Force, and DoD needs, and the potential of the research balanced against the available funding resources of a given portfolio. Selection for award consideration will be made based on the outcome of these reviews.

AFOSR anticipates selecting proposals for possible funding on a competitive basis according to [10 USC 2361](#), and [10 USC 2374](#) using the merit-based, competitive procedures described in [32 CFR 22.315](#), incorporated here by reference.

You should show strength in as many of the evaluation and selection areas as practicable to demonstrate maximum competitiveness.

b) Cost Analysis for Reasonableness and Realism

If your proposal is selected for possible award, AFOSR will analyze the cost of the work for realism and reasonableness. The cost of your proposal is considered but is not an evaluation factor or criterion.

AFOSR must make sure the costs you propose are reasonable, realistic, and allocable to this work before AFOSR can make an award. All costs must be allowable to be

reasonable. AFOSR may analyze your technical and cost information at the same time.

3. Disclosure of Administrative Processing by Contractor Personnel

AFOSR use support contractor personnel to help it with administrative proposal processing. The contractor personnel are employees of commercial firms that have a contract with AFOSR. AFOSR makes sure all of its support contracts include nondisclosure agreements that prohibit disclosure of any information you submit to other parties.

4. Security Risk Review

a) Security Risk Review

Each proposal 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 proposals 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) External Engagements

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:

(1) Foreign Talent Program	(2) Funding	(3) Foreign Institutions	(4) Denied Entities	(5) U.S. Government Systems
Indicators of active and past participation or sponsorship in a strategic competitor Foreign Talent Program with history of targeting U.S. research or technology.	Indicators of active, historical, or pattern of conflict of interest, conflict of commitment, or pattern of direct funding from a strategic competitor or country with history of targeting U.S. research or technology.	Indicators of active, historical, or pattern of association with direct affiliation, collaboration with a foreign institution, person, or entity associated with a strategic competitor or country with history of targeting U.S. research or technology.	Indicators of an active affiliation or past affiliation or present association with an entity on the U.S. Gov’t denied entity or person list or EO 13959 or subsequent similar issuances	Indicators that may reside in safeguarded U.S. government environments, according to its ascribed classification and not releasable for public consumption.

d) **Actions Required by Applicants/Recipients at Proposal Submission**

- (i) In accordance with AFRLI 61-113, S&T Protection, Applicants/Recipients are required to submit the following documentation with their proposal:
 - (a) Standard Form 424, “Research and Related Senior and Key Person Profile (Expanded) (See Appendix 1), AND;
 - (b) Security Program Questionnaire (See Appendix 2), AND;
 - (c) “Privacy Act Statement” consent form for each Covered Individual that is also signed by the Applicants/Recipients as the Individual’s Sponsors (See “Covered Individual” section below and Appendix 4)
- (ii) 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.**
- (iii) By submission of the Research and Related Senior Key Person Profile and Security Program Questionnaire, the Applicant/Recipient agrees to comply with the following:
 - (a) 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).
 - (b) To establish and maintain an internal process or procedure to address foreign talent programs, conflicts of commitment, conflicts of interest, and research integrity.
 - (c) 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.

e) **Actions Required by Covered Individuals**

- (i) 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 Notice of Funding Opportunity (NOFO) solicitation, “covered individuals” are all Senior/Key Personnel.)
- (ii) 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.

(iii) 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).

(iv) 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.

f) Actions Required by Applicants/Recipients During Period of Performance

(i) 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.

(ii) 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 five (5) business days of awareness.

(iii) 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.

(iv) 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.

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

5. No Guaranteed Award

AFOSR does not guarantee that any award will be made under this competition.

G. AWARD NOTICES

1. Selection Notices

a) Electronic Notification

If your proposal is selected for possible award, an email will be sent to the principal investigator.

b) Selection for Possible Award Does Not Authorize Work

Our selection notice is not an authorization to start work and is not an award guarantee. AFOSR will contact your business office to get answers to any questions it has about your proposal and negotiate specific award terms. Negotiations may result in funding levels that are less than those in the proposal.

2. Award Notices

a) Federal Award Document

A grant or contract signed by a warranted Grants or Contracting Officer is the only official notice that an award has been made.

b) Electronic Federal Award Distribution

AFOSR sends award documents to your business office by email. This is called award distribution. AFOSR always ask your business office to forward the award to the Principal Investigator indicated on the award document.

H. POST-AWARD REQUIREMENTS AND ADMINISTRATION

1. Administration and National Policy Requirements

a) Reporting of Matters Related to Recipient Integrity and Performance

You must report recipient integrity and performance information as required by Appendix XII to [2 CFR Part 200– Award Term and Condition for Recipient Integrity and Performance Matters](#), incorporated here by reference. You should read the full text of this award term now using the link above to make sure you understand our requirements. You can also find this term at <http://www.ecfr.gov>.

b) Agency Review of Applicant’s Risk

- (i) AFOSR must review information available about you and entities included in your proposal through the Office of Management and Budget (OMB) designated repositories of government- wide eligibility qualification and financial integrity

information. Our risk review is required by [41 U.S.C. 2313](#) and includes both public and non-public information. You must be qualified as described at [32 CFR 22.415 Standards](#) to receive an award.

- (ii) AFOSR must consider the non-public segment of the Federal Awardee Performance and Integrity Information System (FAPIIS) for all awards exceeding the current simplified acquisition threshold of \$250,000.
 - (iii) At a minimum, the information in the system for a prior Federal award recipient must demonstrate a satisfactory record of executing programs or activities under Federal grants, cooperative agreements, or procurement awards, and integrity and business ethics. We will consider any comments you provide, in addition to the other information in the designated integrity and performance system, when making our risk judgment about your integrity, business ethics, and record of performance under Federal awards.

 - AFOSR may make an award to a recipient who does not fully meet our standards as described at [2 CFR 200.205\(a\)\(2\)](#) if it is determined that the information is not relevant to the current Federal award under consideration or there are specific conditions that can appropriately mitigate the effects of the non-Federal entity's risk in accordance with [2 CFR 200.208 Specific conditions](#).
 - (iv) AFOSR must comply with the guidelines on government-wide suspension and debarment described in [2 CFR 200.213](#) and must require you to comply with these provisions for all work AFOSR funds. These provisions restrict Federal awards, sub-awards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in Federal programs or activities.
- c) **Certification of Lobbying Activity**
By checking "I Agree" on the SF-424 (R&R) block 17 you agree to fully comply with the Lobbying Disclosure Act of 1995, 2 U.S.C. § 1601 et seq. If your grant amount exceeds \$100,000 you are certifying that you do not have lobbying activity to disclose. If you have lobbying activity that you must disclose under 31 U.S.C. 1352 as implemented by the DoD in 32 CFR Part 2 you must attach the completed SF-LLL Disclosure of Lobbying Activities. You can find instructions for completing this form at <https://grants.gov/forms/forms-repository/post-award-reporting-forms>.
- d) **Cross-cutting National Policy Requirements**
You must comply with all applicable national policy requirements as a condition of award. Key national policy requirements may be found in the DoD Research and Development General Terms and Conditions (DoD T&C); and [Appendix B to 32 CFR](#)

Part 22 – Suggested Award Provisions for National Policy Requirements that Often Apply, incorporated here by reference.

e) Acknowledgement of Research Support

You must acknowledge support provided by the Government in all materials based on or developed under our awards. The requirement extends to copyrighted and non-copyrighted materials published or displayed in any medium.

The following language must be used unless the award document provides different instructions:

“This material is based upon work supported by the Air Force Office of Scientific Research under award number FAXXXX-XX-X-XXXX”.

You must require any sub-recipients or subcontractors under your award to include this acknowledgment, too.

f) Disclaimer Language for Research Materials and Publications

Some materials based on or developed under our awards must include special disclaimer language. You must include this language in all materials except scientific articles or papers published in scientific journals unless your award document provides different instructions:

“Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the U.S. Department of Defense.”

g) Uniform Administrative Requirements, Cost Principles, and Audit Requirements

Our grants are governed by the guidance in Title 2, Code of Federal Regulations (CFR) Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards” as modified and supplemented by the Department of Defense’s (DoD) interim implementation in 2 CFR Part 1103 [79 FR 76047, December 19, 2014] and 2 CFR Part 1125. Provisions of Chapter 1, Subchapter C of Title 32, CFR, “DoD Grant and Agreement Regulations” other than parts 32 and 33 continue to be in effect and apply as stated. These regulations are incorporated by reference into this announcement.

h) DoD Research and Development General Terms and Conditions

Our domestic grants are subject to the current (at time of award) “DoD Research and Development General Terms and Conditions” (DoD T&C) found at DoD Research and Development General Terms and Conditions.

These terms and conditions are incorporated by reference into this announcement. We can provide a generic model grant or cooperative agreement upon request.

If we publish updated terms and conditions, the updated terms and conditions may apply to any grant made under this announcement.

Our foreign grants and cooperative agreements are governed by award-specific terms and conditions that implement and supplement the section 2 CFR Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. We can provide a generic model grant or cooperative agreement upon request.

i) Conditions of Award for Recipients Other Than Individuals

You must agree to comply with the requirements at [2 CFR Part 182, Subpart B](#) “Requirements for Recipients Other Than Individuals” as a condition of award.

j) Minimum Record Retention Requirements

You must keep records related to our awards for at least three (3) years after completion and the final Federal Financial Report is submitted. This requirement is described further in [2 CFR 200.334](#), incorporated here by reference.

Sometimes records must be retained for more than three years.

2. Reporting

a) Monitoring and Reporting Program Performance

All of our awards require at least annual and final technical performance reports as required in [2 CFR 200.329](#). The DoD T&C REP Article I. Performance reporting will apply to grant or cooperative agreement awards. Some of our awards require more frequent technical reports.

You must provide your reports on time. Our awards include a schedule specifying the latest date for submission of each required report. Failure to provide required reports, or providing reports after required due dates, could lead to being considered ineligible for future awards.

b) Technical Performance Report Format

(i) Federal-wide Research Progress Performance Report (RPPR) Format (All grant awards). We now use the Federal-wide Research Progress Performance Report (RPPR) for annual and final research performance reports. The reporting requirements will be detailed in the grant award documents.

(ii) ANSI Standard Z39.18-2005 (all non-grant awards). Use the AFRL Scientific & Technical Reports – Preparation, Presentation and Preservations Format Guidelines (June 2010) for your final report unless your award states different requirements. You can download the AFRL standard guide from the Related Documents tab in Grants.gov for this announcement.

- c) **Department of Defense (DD) Form 882 Report of Inventions and Subcontracts**
- (i) **Invention Reports**
- (a) You must provide at least a final invention report on DD Form 882. We may ask for annual reports. Our award documents specify the due date. You can get the form at <https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd0882.pdf>.
- (b) You **must** submit invention reports even if you do not have a patent to report.
- (ii) **Sub-Award and Subcontract Reporting**
- You must use the DD Form 882 to tell us about any subawards or subcontracts. Your award will provide specific instructions. You can get the form at <https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd0882.pdf>.
- d) **Standard Form (SF)-425 Federal Financial Report**
- Our awards require a final SF-425 Federal Financial Report. You can get the form at <https://www.grants.gov/forms/forms-repository/post-award-reporting-forms>. If you request any advance payment(s) under your award, you must submit quarterly SF-425 reports for the life of the grant. Our awards include specific instructions. You do not have to submit quarterly SF-425 reports if you only request payments by reimbursement.
- e) **Electronic Payment Requests and Electronic Payment**
- You must register to use Wide Area Work Flow (WAWF) for payment. Payment requests shall be made electronically using an SF-270 through the WAWF application in the Procurement Integrated Enterprise Environment (PIEE) e-Business Suite at <https://piee.eb.mil/>. The website includes registration instructions. All payments must be made using the electronic funds transfer (EFT) method.
- If you have WAWF or PIEE questions or problems, you can get help by telephone at (866) 618-5988, or by electronic mail at disa.global.servicedesk.mbx.eb-ticket-requests@mail.mil, or via the Internet at: <https://piee.eb.mil/xhtml/unauth/web/homepage/vendorCustomerSupport.xhtml>.
- f) **Property Reports**
- If AFOSR furnishes any property owned by the Government under an award, you must submit periodic property status reports as described in [2 CFR 200.329](#) and further implemented by the DoD T&C REP Article III. Reporting on Property.
- g) **Other Reports**
- Our Program Officers may ask for informal technical reports as needed. AFOSR uses these informal reports for program purposes, such as preparation for meetings and other technical purposes. AFOSR highly recommends you provide this information in a timely manner by electronic mail directly to the Program Officer.

h) **Electronic Submission of Reports**

You must plan on submitting reports electronically. You must submit most reports through the internet application detailed in the grant award document. Some reports must be sent using electronic mail. Our award documents provide specific instructions that you must follow.

I. OTHER INFORMATION

1. Ombudsman

- a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and others for this acquisition. 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 officer, grants officer, contracting officer, or source selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of protests or formal grant or contract 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 grants or contracting officer for resolution. Consulting an ombudsman does not alter or postpone the timelines for any other processes (e.g., agency level bid protests, GAO bid protests, requests for debriefings, employee-employer actions, contests of OMB Circular A-76 competition performance decisions).

- c) If resolution cannot be made by the GO, concerned parties may contact the AFRL Ombudsman, Director of Contracting, HQ AFRL/PK. The AFRL Alternate Ombudsman is the Deputy Director of Contracting, HQ AFRL/PK. Please send an email to afrl.pk.workflow@us.af.mil with the subject of "Ombudsman".

- 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 solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the grants or contracting officer.

2. Grants and Contracting Officer Authority

- a) Grants and Contracting Officers acting within their warranted capacity are the only individuals legally authorized to make commitments or bind the Government.

b) No other individuals are authorized to make commitments or otherwise bind us.

3. **Funding Opportunities**

We post new funding opportunities throughout the year looking for today's breakthrough science for tomorrow's Air Force and Space Force. You can find more information about Air Force Office of Scientific Research interests and funding opportunities on our website at <https://www.afrl.af.mil/afosr/>.