AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR) FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) # FOA-AFRL-AFOSR-2022-0008

MILITARY MEDICAL PHOTONICS PROGRAM

OVERVIEW

The Air Force Office of Scientific Research (AFOSR) seeks unclassified proposals for broad-based research and development aimed at using lasers and other light source technology to develop applications in medicine, photobiology, surgery, and closely related materials sciences, with applications to combat casualty care and other military medical problems. This announcement is primarily directed toward university-based medical institutions; however, all qualified and responsible prime applicants located in the United States are eligible to submit proposals. The highest priority will be extended to proposals up to three (3) years duration to be conducted by teams of physicians, biomedical scientists, physical scientists, and engineers.

The efforts proposed may be basic or applied research and must have direct relevance to combat casualty care or other military medical priorities. Applicants must demonstrate substantial experience working to further military medical priorities, including transitioning research into clinical practice and working products. Substantial experience collaborating with military medical centers is also a requirement to establish relevance to combat casualty care or other military medical priorities and facilitate the transition of research results to meet military needs.

Applicants are encouraged to apply as early as practicable. Proposals may be reviewed and selected as received. Awards may take the form of grants.

Table of Contents

SUMMARY FUNDING OPPORTUNITY INFORMATION 4
1. FEDERAL AWARDING AGENCY NAME 4
2. FUNDING OPPORTUNITY TITLE 4
3. ANNOUNCEMENT TYPE 4
4. ANNOUNCEMENT NUMBER 4
5. CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBERS 4
6. KEY DATES 4
FULL TEXT OF FUNDING OPPORTUNITY 5
A. PROGRAM DESCRIPTION 5
B. FEDERAL AWARD INFORMATION 5
C. ELIGIBILITY INFORMATION 6
1. ELIGIBLE APPLICANTS 6
2. COST SHARING OR MATCHING 7
3. INELIGIBLE ENTITIES 7
4. OTHER 7
D. APPLICATION AND SUBMISSION INFORMATION 8
1. ADDRESS TO REQUEST APPLICATION PACKAGE 8
2. CONTENT AND FORM OF APPLICATION SUBMISSION 8
3. OTHER FORMS 12
4. UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT (SAM) 14
5. SUBMISSION DATES AND TIMES 15
6. INTERGOVERNMENTAL REVIEW 16
7. FUNDING RESTRICTIONS 16
E. APPLICATION REVIEW INFORMATION 18
1. CRITERIA 18
2. REVIEW AND SELECTION PROCESS 18
3. COST ANALYSIS 19
4. DISCLOSURE OF ADMINISTRATIVE PROCESSING BY CONTRACTOR PERSONNEL 19
5. NO GUARANTEED AWARD 19
6. NOTICE OF LIMITED FUNDING 19
F. FEDERAL AWARD ADMINISTRATION INFORMATION 20
1. SELECTION NOTICES 20

2. AWARD NOTICES 20
3. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS 20
4. REPORTING 22
G. AGENCY CONTACTS 24
1. TECHNICAL INQUIRES AND QUESTIONS 24
2. GENERAL INQUIRIES AND QUESTIONS 25
H. OTHER INFORMATION 25
1. OMBUDSMAN 25
2. GRANTS OFFICER AUTHORITY 26
3. ADDITIONAL FUNDING OPPORTUNITIES 26

SUMMARY FUNDING OPPORTUNITY INFORMATION

1. FEDERAL AWARDING AGENCY NAME

Air Force Office of Scientific Research (AFOSR)
875 North Randolph Street, STE 325, Room 3112
Arlington, VA 22203

2. FUNDING OPPORTUNITY TITLE

Military Medical Photonics Program

3. ANNOUNCEMENT TYPE

Initial Announcement

4. ANNOUNCEMENT NUMBER

FOA-AFRL-AFOSR-2022-0008

5. CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBERS

12.420

6. KEY DATES

Proposals must be received electronically through Grants.gov not later than 9 December 2022 at 11:59 PM Eastern time to be considered.

Pre-proposal inquiries and questions must be received in writing by electronic mail not later than 15 November 2022 at 11:59 PM Eastern time to be considered.

FULL TEXT OF FUNDING OPPORTUNITY

A. PROGRAM DESCRIPTION

The Air Force Office of Scientific Research (AFOSR) seeks unclassified proposals for broad-based research and development aimed at using lasers and other light source technology to develop applications in medicine, photobiology, surgery, and closely related materials sciences, with applications to combat casualty care and other military medical problems. This announcement is primarily directed toward university-based medical institutions; however, all qualified and responsible prime applicants located in the United States are eligible to submit proposals. The highest priority will be extended to proposals up to three (3) years duration to be conducted by teams of physicians, biomedical scientists, physical scientists, and engineers.

The efforts proposed may be basic or applied research and must have direct relevance to combat casualty care or other military medical priorities. Applicants must demonstrate substantial experience working to further military medical priorities, including transitioning research into clinical practice and working products. Substantial experience collaborating with military medical centers is also a requirement to establish relevance to combat casualty care or other military medical priorities and facilitate the transition of research results to meet military needs.

B. FEDERAL AWARD INFORMATION

Federal awards made under this FOA will support broad-based research and development aimed at using lasers and other light source technology to develop applications in medicine, photobiology, surgery, and closely related materials sciences, with applications to combat casualty care and other military medical problems. A small portion of the award may support non-light-based research, so long as its approach is unique, and it is directed toward difficult military medical needs.

AFOSR executes funds provided by the U.S. Department of Defense, Defense Health Agency for this research topic. AFOSR anticipates no more than $10 million per year may be made available to fund up to five proposals submitted under this announcement. The period of performance anticipated is up to three (3) years duration.

All initial applications will be considered applications for new awards, including any application marked renewal. Applications to supplement an existing project with additional funding may be considered on a case-by-case basis post-award but are not anticipated to compete with new award funding.

AFOSR reserves the right to select and fund for award all, some, part or none of the proposals received in response to this announcement. There is no guarantee of an award. Awards under the authority of 10 U.S.C. 4001 are anticipated in the form of grants. AFOSR will select the appropriate instrument for the Federal award in accordance with the Federal Grant and Cooperative Agreement Act (31 U.S.C. 6301 – 31 U.S.C. 6308).

A grant award may be made to institutions of higher education (IHE) or nonprofit organizations as described in 2 CFR 25.345. AFOSR does not award grants to organizations with a for-profit organization type.

Awards are made under the authority of 10 U.S.C. 4001 in the form of grants, cooperative agreements, or contracts. We rely on discretionary appropriated funds for this program. We can only make awards if enough funds are made available. We select what kind of award instrument we can use based on requirements in the Federal Grant and Cooperative Agreement Act 31 U.S.C. 6301 – 31 U.S.C. 6308. Awards may take the form of contracts, grants, cooperative agreements, technology investment agreements and other transaction agreements as appropriate. The following provides a brief description of potential instrument types:

Grant. A legal instrument consistent with 31 U.S.C. 6304, is used to enter into a relationship:

The principal purpose of which is to transfer a thing of value to the recipient to carry out a public purpose of support of stimulation authorized by a law or the United States, rather than acquire property or services for the Federal Government's direct benefit or use.

In which substantial involvement is not expected between the Federal Government and the recipient when carrying out the activity contemplated by the grant.

No fee or profit is allowed.

C. ELIGIBILITY INFORMATION

1. ELIGIBLE APPLICANTS

a. Non-Federal Entity Organizations Located in the United States
All qualified and responsible non-Federal entity applicant organizations located in the United States are eligible to submit proposals; however, this announcement is primarily directed toward university-based medical institutions. Collaborations with defense-related medical research entities are desirable and strongly encouraged.

If an applicant's proposal is selected, AFOSR will review Office of Management and Budget (OMB) designated repositories of government-wide public and non-public data as required by 31 U.S.C. 3321 and 41 U.S.C. 2313 as described in 2 CFR 200.206 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 and Small Business Applicants Encouraged
Proposals are encouraged from Historically Black Colleges and Universities and Minority institutions (HBCU/MI) as defined by 10 U.S.C. 4144, and HBCU/MI affiliated medical centers.

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

2. COST SHARING OR MATCHING

We do not require cost sharing for proposals under this announcement. Cost sharing is not an evaluation or selection criterion.

3. INELIGIBLE ENTITIES

None of the following entity types are eligible to submit proposals under this FOA.
a. Federally Funded Research and Development Centers (FFRDCs)
b. Individual persons or people
c. Foreign public entities
d. Foreign organizations
e. Federal agencies
f. Corporations with an unpaid delinquent Federal tax liability or felony conviction under Federal law as prohibited by the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) or any other act
g. Non-Federal entities reporting an exclusion in the System for Award Management (SAM)

4. OTHER

a. Expectation of Public Dissemination of Research Results
AFOSR expects the research funded by this announcement to range from fundamental to applied, including the potential for device development and pre-clinical trials. 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 FOA unless the Program Officer listed in section G. AGENCY CONTACTS provides an explicit written exclusion to these policies with the Grants Officer's advice and consent. All exclusions must be authorized or required by law and must cite a valid legal authority.

b. Anticipated Latest Award Date
Any grant issued under this FOA must be awarded not later than 30 Sep 2023, subject to availability of funds. Proposals selected for a possible award that have not been awarded by 30 Sep 2023 will not be awardable under this funding opportunity unless new money becomes available.

Any research selected for funding under this FOA should be scheduled to begin on or before 30 Sep 2023. The actual start date will be negotiated prior to award.

D. APPLICATION AND SUBMISSION INFORMATION

1. ADDRESS TO REQUEST APPLICATION PACKAGE

The electronic application package may be found on Grants.gov by searching for the announcement number shown on page one. All application forms are available through Grants.gov.

2. CONTENT AND FORM OF APPLICATION SUBMISSION

a. Pre-proposal Submissions, Inquiries, and Questions
White papers and pre-applications are not required; however, applicants are encouraged to contact the Program Officer indicated in section G. AGENCY CONTACTS below to discuss the proposed research effort in advance of proposal preparation. Topics of frequent interest include the current state of related research, the potential of the effort to advance the state of the art, and the anticipated budget. The Program Officer may ask for additional information at that time.

The Program Officer does not have the authority to make commitments. Grants Officers acting within their warranted capacity are the only individuals legally authorized to make commitments or bind the Government.

b. The Application as a Whole
The technical proposal must include the electronic SF 424 (R&R) Application for Federal assistance form as the cover page. No pages may precede the SF 424 (R&R). The OMB number for the SF 424 (R&R) is 4040-0001.

The SF 424 (R&R) must include the signature of an authorized applicant representative. This signature is affixed electronically by Grants.gov upon submission. This signature is considered the signature for the application as a whole.

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.

Grants.gov "Help Mode" may be turned on to provide additional instructions on a form-specific basis as needed. "Help Mode" is turned on by the icon with the pointer and question mark located at the top of the form.

There are special instructions for completing several SF 424 (R&R) form fields for applications under this announcement. The instructions are as follows:

- **Field 2:** The "Applicant Identifier" field may be left blank
- **Field 3:** The "Date Received by State" and "State Application Identifier" may be left blank.
- **Field 9:** List Air Force Office of Scientific Research as the name of Federal agency. This field should be pre-populated by Grants.gov.
- **Field 16:** Choose "No." Check "Program is Not Covered by Executive Order 12372."
- **Field 17:** Select "I Agree." Applicants that do not agree to this requirement are not eligible to submit a proposal.
- **Field 18:** (1) Attach the representations on tax delinquency and felony convictions. The representations page is provided with the full announcement of the funding opportunity. (2) Also attach the SF-LLL or other explanatory documentation if there is lobbying that must be disclosed under 31 USC 1352, as implemented by the DoD at 32 CFR Part 28.

c. Proposal Length
Proposals should be sixty (60) pages or less. The page count includes the cover page. Elaborate brochures, reprints, or presentations beyond those sufficient to present a complete and effective proposal are not desired.
The budget, budget justification, and documents that support the budget are not included in the page count.

d. Proposal Format

- Paper Size – 8.5 x 11-inch paper
- Margins – 1 inch
- Spacing – 1.0-line spacing
- Font – Times New Roman, 12 point
- Page Limitation – 60 pages
- Content – as described below

e. Publicly Releasable Abstract

(1) A concise abstract of 300 words or less is required for all proposals. The abstract must be marked publicly releasable.
(a) The abstract should use terms the public may understand to describe the research objective, technical approach, anticipated outcome, and potential impact of the specific research.
(b) The abstract header should include the Program Officer's name and office symbol from section G. AGENCY CONTACTS below.
(c) Attach the abstract to the R&R Other Project Information form in field 7 as described in D.3.c below.

f. Project Narrative Instructions

(1) General Narrative Instructions
(a) Clearly describe the research, including the research objective and approach. The project narrative will be evaluated using the criteria listed in section E.1 below. Briefly indicate whether the intended research will result in environmental impacts outside the laboratory, and how you will ensure compliance with environmental statutes and regulations.
(b) Attach the complete proposal narrative to field 8 of the R&R Other Project Information form as described in section D.3.c below.

(2) Statement of Objectives
(a) Describe the actual research to be completed on a single page titled "Statement of Objectives." Active verbs should be used in the statement (e.g., "conduct" research in a subject area, "investigate" a problem, "determine" to test a hypothesis).
(b) The statement of objectives should not contain proprietary information.
(c) The Government reserves the unilateral right to incorporate this Statement of Objectives into the award instead of incorporating the entire technical proposal by reference.

(3) Research Effort
(a) Describe the research to be performed in detail. State the research objectives and approach, and the relationship and comparable objectives to research progress elsewhere. Describe the research team's knowledge in the field and provide a bibliography and list of literature citations. 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.

(4) Principal Investigator (PI) Time
(a) An estimate of the time the principal investigator and other senior professional personnel will devote to the research is required. The 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 the principal investigator or other key personnel are currently engaged in research under other auspices, or expect to receive support from other agencies for research during the time proposed for AFOSR support, state the title of the other research, the proportion of time to be devoted to it, the amount of support, name of agency, dates, etc. Send any changes in the information to AFOSR as soon as those changes become known.
(i) Submit a short abstract to include title, objectives, approach, and budget for both present and pending research projects.

(5) 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.

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

h. Equipment
(1) Justify the need for each equipment item. Estimate the life expectancy of the equipment. When required, indicate whether equipment will be integrated with a larger assemblage or apparatus and describe the ownership of the larger assemblage or apparatus.
(2) Additional equipment and facilities will not be provided unless the research cannot be completed by any other practical means.
(3) Supporting documentation for the equipment and basis of estimate(s) for cost should be included with the budget justification.

i. Marking of Proposals with the Announcement Number
Proposals should reference FOA-AFRL-AFOSR-2022-0008

j. Marking of Proposals with Confidential or Proprietary Information
(1) The applicant is responsible for marking proposals and proposal sections that contain proprietary or confidential information using the protective legend found at FAR 52.215-1(e) Instructions to Offerors -- Competitive Acquisition (Jan 2004), modified to permit release to outside evaluators retained by AFOSR.
(2) AFOSR will make every effort to protect the confidentiality of proposals received, including any proposal evaluations; however, under Freedom of Information Act (FOIA) requirements, some or all proposal information may be subject to release.
(3) The entire proposal, or any portions thereof, without protective markings or otherwise identified as requiring protection will be considered voluntarily furnished to AFOSR without restriction and will be treated as such for all purposes.

k. Data Management Plan
(1) All proposals should include a supplementary document labeled “Data Management Plan” that is two (2) pages or less in total length. The plan should address data management issues such as:
(a) 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.
(b) How the data will be acquired;

(c) Time and location of data acquisition if they are scientifically pertinent;
(d) How the data will be processed;
(e) The file formats and the naming conventions that will be used;
(f) A description of the quality assurance and quality control measures during collection, analysis, and processing;
(g) If existing data are to be used, a description of their origins;
(h) A description of the standards to be used for data and metadata format and content;
(i) Plans and justifications for archiving the data;
(j) The timeframe for preservation; and
(k) If for legitimate reasons the data cannot be preserved, the plan must include a justification citing such reasons.
(2) Attach the Data Management Plan to the R&R Other Project Information for in field 12, Other Attachments as described in section D.3.c below.

3. OTHER FORMS

a. SF 424 R&R Form Family, OMB Number 4040-0001
The Grants.gov electronic SF 424 Research and Related (R&R) Application for Federal Assistance Form Family must be used to prepare and submit your application through Grants.gov.

b. Electronic Form and Proposal Attachments
All form and proposal attachments must be in electronic file formats. The portable document format (PDF) is preferred for all attachments.

c. R&R Other Project Information

- **Fields 1 and 1a:** Each proposal must address 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.
- **Fields 2 and 2a:** Each proposal must address prospective animal subject 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.
- **Field 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.
- **Field 7:** Attach the publicly releasable abstract.
- **Field 8:** Attach the project narrative proposal.
- **Field 9:** Attach the Bibliography and References Cited.

- **Field 10:** Attach the Facilities and Other Resources description document to field 10 if needed to supplement the Proposal Narrative facilities and resource section. This attachment is highly recommended.
- **Field 11:** Attach the equipment justification to field 11. Supporting documentation may be included here or attached with the budget justification. If the Equipment Justification is attached, reference it in the budget justification.
- **Field 12:** Attach the R&R Subaward Budget Attachments Form to field 12 if applicable. Attach all subaward budgets. Attach all Subaward Budget Justifications as applicable. **Attach the Data Management Plan here if applicable.**

d. R&R Senior / Key Person Profile Form
(1) Complete the R&R Senior/Key Person Profile Form for key persons anticipated to perform the research. Key persons are generally the PI, any Co-PIs, and each of the senior staff.
(2) Each Senior/Key person listed should have short biographical sketch and list of significant publications (vitae) and provide a list of current and pending support as attachments.
(3) The principal purpose and use of the requested information is for evaluation of the qualifications of those persons that are anticipated to perform the proposed research.

e. R&R Budget Form
(1) Complete all information requested. Estimate the total research project cost. Categorize funds by year and provide separate annual budgets for projects lasting more than one year.
(2) Sub-awards or subcontracts proposed must include a budget prepared using the same standard, including a budget justification as described below.

f. Budget Justification Attachment
(1) A detailed budget justification for each year that clearly explains the need for each item is required. The entire budget justification and supporting documentation must be combined into a single file for attachment to field K of the R&R Budget form.
(a) Travel should be itemized to state the 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.
(b) Materials, supplies and equipment should be itemized, including the basis for costs. List all material/equipment by type and kind with associated costs. Indicate what costs are based on, such as vendor quotes, historical data and/or engineering estimates. Include vendor quotes and/or catalog pricing data.
(c) If a current rate agreement is used to propose indirect cost rates and/or fringe benefit rates, attach a copy of the agreement.
(d) Helpful Cost Principle Reference Information
(i) Grant applicants may find the guidance at 2 CFR 200, Subpart E – Cost Principles helpful.
(ii) Grant and contract applicants may find the General Provisions for Selected Items of Cost in 2 CFR 200.420 through 2 CFR 200.475 helpful.

g. R&R Project/Performance Site Locations Form
(1) Complete all information as requested.
(2) The ZIP+4 must be provided for each performance location listed.

h. Advance Preparation for Electronic Submission through Grants.gov
(1) Proposals must be submitted electronically through Grants.gov. The applicant organization must complete several one-time actions before electronic submission. Registration with Grants.gov may take up to twenty-one (21) days.
(2) Applicants should verify that the persons authorized to submit proposals for your organization have completed these actions well in advance of the submission deadline. Grants.gov electronic proposal submissions cannot be accomplished before the applicant organization is fully registered.
(3) A Grants.gov getting started checklist is available at:
https://www.grants.gov/web/grants/learn-grants/grants-101/getting-started-checklist.html
(4) Guidance for registering with Grants.gov as an organization may be found at:
http://www.grants.gov/web/grants/applicants/organization-registration.html.
(5) Questions relating to the Grants.gov registration process, system requirements, how an application works, or the proposal submittal process can be answered by email at support@grants.gov, telephone at (800) 518-4726. or at
http://www.grants.gov/web/grants/support.html.
(6) An active System for Award Management (SAM) registration and a Unique Entity Identifier (UEI) number are required to register through Grants.gov. (See section D.4 below)

i. Successful Applicants Must Submit After Notification of Selection for Possible Award
(1) The Grants Officer may request additional information from successful applicants during negotiations, or as required to inform their consideration for award.
(2) Should an applicant not fully comply with information requests by the time AFOSR is ready to make a Federal award, AFOSR may determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant.

4. UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT (SAM)

a. SAM Registration
(1) As required in 2 CFR 25.110 all applicants, unless exempted, must:
(a) Be registered in SAM before submitting its application;
(b) Provide a valid Unique Entity Identifier UEI; and
(c) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration by a federal awarding agency.
(2) A Commercial and Government Entity (CAGE) code is obtained or specified as part of the SAM registration process. A CAGE code is required.

(3) SAM Exemption or Exceptions Not Available Under This Announcement AFOSR will not issue an Agency level exemption to SAM registration under 2 CFR 25.110(d)(1) for applicants under this FOA.
All applicants must comply with the SAM registration requirements, including provision of a UEI number and CAGE code on each application.

b. Questions about SAM Registrations and Updates
(1) Questions relating to the SAM registration and entity update process can be answered by live chat at https://www.fsd.gov/fsd-gov/home.do and telephone at (866) 606-8220 or (324) 206-7828.
(2) Top help topics for https://www.sam.gov/ are available at https://www.fsd.gov/fsd-gov/learning-center-system.do?sysparm_system=SAM

c. Consequences of Non-Compliance with SAM Registration Requirements
(1) AFOSR will not make a federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements as required by 2 CFR 25.205.
(2) Applicants cannot receive payments without an active SAM registration that includes a CAGE code.
(3) As authorized by 2 CFR 25.205(b), AFOSR may determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant should an applicant not fully comply with SAM registration requirements by the time the Grants Officer is ready to make a Federal award decision.

5. SUBMISSION DATES AND TIMES

a. Proposal Submission Deadline
(1) Proposals for funding must be received electronically through Grants.gov not later than **15 November 2022at 11:59 PM applicant organization local time** to be considered. This is the final due date.

b. How Proposal Submission Time is Determined by AFOSR
(1) The proposal submission time is determined using the system-generated electronic stamp assigned by Grants.gov at the time of proposal submission.

c. Grants.gov Tracking Number is Application Receipt
(1) Applicants will receive a confirmation page when the application is submitted through Grants.gov. The confirmation page will include a system-generated tracking number assigned at the time of submission. This tracking number serves as your receipt.
(2) The submission time can be verified electronically through the tracking number using the link at https://www.grants.gov/web/grants/applicants/track-my-application.html. Successfully submitted applications are retained and remain visible in your organization's Grants.gov account.

d. Effect of Missing the Proposal Submission Deadline
(1) Grants.gov will accept electronic proposals submitted after the submission deadline.
(2) AFOSR will not accept proposals submitted by any means other than electronically through Grants.gov before the due date.

e. Pre-Proposal Inquiries and Questions Deadline
(1) Pre-proposal Inquiries and Questions Due Date Pre-proposal inquiries and questions about technical matters or the FOA must be received in writing as described in section G. AGENCY CONTACTS below not later than **15 November 2022 at 11:59 PM applicant organization local time** to be considered for available funding. Pre-proposal questions are encouraged, but optional.
(2) Replies will be provided as soon as practicable. Replies to all pre-proposal inquiries and questions should be posted by **1 December 2022**

f. How Submission Time for Pre-Proposal Inquiries and Questions is Determined by AFOSR
The date and time stamped on the emailed question as received by AFOSR will determine the question submission time. AFOSR is not responsible for late or misdirected emails.

g. Effect of Missing the Pre-Proposal Inquiries and Questions Submission Deadline
AFOSR will not provide responses or answers to questions received after the Preproposal Inquiries and Questions Due Date.

6. INTERGOVERNMENTAL REVIEW

None. This program is excluded from coverage under Executive Order (E.O.) 12372.

7. FUNDING RESTRICTIONS

a. Latest Date for a Grant Award
Any grant issued under this FOA will be awarded in fiscal year 2023

b. Pre-award Costs under Grant Agreement Awards
Federal awards made using a grant instrument include up to ninety (90) calendar days' pre-award costs in accordance with the DoD Research and Development General Terms and Conditions, September 2021 (DoD T&C). The DoD T&C waiver of prior approval for these pre-award costs constitutes the prior written approval of AFOSR. The date pre-award costs become allowable is determined by subtracting ninety days from the beginning of the period of performance listed on the awarded grant.

(1) AFOSR prior written approval is required by 2 CFR 200.308(e)(1) for more than the ninety (90) day pre-award costs. Requests for more than one hundred eighty (180) days pre-award costs will not be considered.

(a) The applicant is responsible for documenting why the pre-award costs are necessary and essential to the effort.
(b) The applicant's business office must request prior approval of more than ninety (90) days pre-award costs during negotiations.
(c) The Grants Officer must seek approval of such costs from the AFOSR Head of the Contracting Activity (HCA) before they can be authorized.
(d) If approved by the HCA and Grants Officer, the date pre-award costs become allowable will be the specific date specified in the grant document.
(e) Approval of more than ninety days pre-award costs will only be considered before the award is made.

(2) All costs incurred before the Federal award are at the recipient's risk as described in 2 CFR 200.308(d)(2). AFOSR is under no obligation to reimburse such costs if for any reason the recipient does not receive a federal award or if the Federal award is less than anticipated and inadequate to cover such costs.

c. Proposal Preparation Costs
The cost of proposal or application preparation in response to this FOA is not considered an allowable direct charge to any resulting award. Such cost is, however, an allowable expense to the normal bid and proposal indirect cost as specified in 2 CFR 200.460 Proposal costs.

d. Air Force Office of Scientific Research No-Cost Extension (NCE) Policy
AFOSR requires prior written approval to extend the period of performance, without additional funds, beyond the expiration date of the grant. No-cost extensions are granted when they are truly warranted and properly documented. For an extension to be granted, all NCE requests must be received from the Principal Investigator (PI) and at least 30 days prior to the expiration of the grant's period of performance. All PIs must submit NCE requests through the following website: https://community.apan.org/wg/afosr/p/nce_request. All requests that are submitted through other avenues will have to be rerouted through the above website.
The NCE request must include:
a. Compelling reason(s) for the extension beyond the using of unexpended balances.
b. Original end date and requested extension length.
c. SF 425 showing the unexpended funds remaining.
d. Request letter from Business office on University's letterhead
e. Ensure all required previous annual reports have been received by AFOSR
In no event will the period of performance be extended merely for the purpose of using unobligated balances.
f. Other Submission Requirements

e. Other Submission Requirements

(1) Electronic Submission through Grants.gov
(2) Pre-application Inquiries and Questions Must Be in Writing

(a) All pre-application inquiries and questions must be submitted in writing by electronic mail as described in section G. AGENCY CONTACTS below not later than the date specified in Section D.5.e above.
(b) Questions presented by telephone call, fax message, or other means will not receive a response.

E. APPLICATION REVIEW INFORMATION

1. CRITERIA

a. Principal Evaluation and Selection Criteria
The two (2) principal selection criteria are as shown below. The principal selection criteria are of equal importance to each other. The combined principal selection criteria are more important than all of the additional evaluation criteria combined.
(1) The technical merits of the proposed research and development; and
(2) Potential relationship of the proposed research and development to Department of Defense missions.

Proposals that are deemed not selectable by the technical evaluator based on one or both of the principal evaluation criteria will not be evaluated further.

b. Additional Evaluation and Selection Criteria
The three (3) additional evaluation criteria are as shown below. The additional evaluation criteria are of equal importance to each other. The three (3) additional selection criteria combined are of lesser importance than the two (2) principal selection criteria combined.
(1) The promise of the proposed research and development to contribute to the medical mission of the DoD, especially in combat casualty care.
(2) The experience of the applicant in performing DOD military research and development, and in transitioning research and development to military medically important devices and clinical practice; and
(3) The experience of the applicant in collaborating with military medical agencies and facilities.

c. No further evaluation criteria or criterion will be used for proposal selection.

2. REVIEW AND SELECTION PROCESS

a. Merit-based, Competitive Procedures
Proposals submitted under this FOA will be evaluated and selected for possible award on a competitive basis according to Public Law 98-369, the Competition in Contracting Act of 1984,

10 USC 4141, and 10 USC 4023 using the merit-based, competitive procedures described in 32 CFR 22.315, incorporated here by reference.
It is important that proposals show strength in as many of the evaluation areas as practicable to demonstrate maximum competitiveness.

The highest priority will be extended to proposals up to three (3) years duration to be conducted by teams of physicians, biomedical scientists, physical scientists, and engineers.

b. Timing of Proposal Reviews
Applicants are encouraged to submit applications early. Proposals may be reviewed as they are received, and may be selected for possible award prior to the proposal submission deadline. Please see the notice of limited funding below for additional information.

3. COST ANALYSIS

Subsequent to selection for possible award, proposal costs will be analyzed for realism and reasonableness. Cost is considered, but is not an evaluation criterion. Technical and cost information may be analyzed simultaneously during the evaluation process.

4. DISCLOSURE OF ADMINISTRATIVE PROCESSING BY CONTRACTOR PERSONNEL

Employees of commercial firms under contract to the Government may be used to administratively process proposals. These support contracts include nondisclosure agreements prohibiting contractor employees from disclosing any information submitted by applicants or offerors.

5. NO GUARANTEED AWARD

There is no guarantee of an award under this FOA. AFOSR may select none, some, or all of the proposals received for possible funding.

6. NOTICE OF LIMITED FUNDING

Limited funding is available for this research topic as described in section B. Federal award information. Early proposal submission is recommended. Otherwise, meritorious proposals may not be funded. It is important that proposals show strength in as many of the evaluation areas as practicable to demonstrate maximum competitiveness.

F. FEDERAL AWARD ADMINISTRATION INFORMATION

1. SELECTION NOTICES

a. Electronic Notification
Should your proposal be selected for possible award, the principal investigator will receive an electronic mail notification from AFOSR stating this information.

b. Selection for Possible Award Does Not Authorize Work
The selection notice is not an authorization to begin work or an award guarantee. Your business office will be contacted by the Grants Officer to negotiate the terms of your award.

2. AWARD NOTICES

a. Federal Award Document
A grant signed by a warranted Grants Officer is the only official notice that an award has been made.

b. Electronic Federal Award Distribution
Award distribution is accomplished by electronic mail to the recipient's business office.

3. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

a. Reporting of Matters Related to Recipient Integrity and Performance
Appendix XII to 2 CFR Part 200 – Award Term and Condition for Recipient Integrity and Performance Matters is incorporated here by reference to this announcement.

b. AFOSR Review of Risk Posed by Applicants

(1) AFOSR is required by 31 U.S.C. 3321 and 41 U.S.C. 2313 to review information available through any OMB-designated repositories of government-wide eligibility qualification or financial integrity information as appropriate. This review includes 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.

(2) Applicants must meet the qualification standards at 32 CFR 22.415 to receive an award. 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. AFOSR will consider any comments by the applicant, in addition to the other information in the designated integrity and

performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the risk assessment.

(3) A Federal awarding agency may make a federal award to a recipient who does not fully meet these standards as described at 2 CFR 200.206 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.

For discretionary Federal awards, unless prohibited by Federal statute, the Federal awarding agency must design and execute a merit review process for applications, with the objective of selecting recipients most likely to be successful in delivering results based on the program objectives outlined in section § 200.202. A merit review is an objective process of evaluating Federal award applications in accordance with written standards set forth by the Federal awarding agency. This process must be described or incorporated by reference in the applicable funding opportunity (see appendix I to this part.). See also § 200.204. The Federal awarding agency must also periodically review its merit review process.

(4) AFOSR must comply with the guidelines on government-wide suspension and debarment described in 2 CFR 200.213 and must require non- Federal entities to comply with these provisions. 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. If an applicant's SAM record reports an exclusion, we cannot make an award.

c. Cross-Cutting National Policy Requirements (Required)
All applicants must comply with national policy requirements. Key national policy requirements may be found in the DoD Research and Development General Terms and Conditions, September 2021 (DoD T&C) found at https://www.nre.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions and, Appendix B to 32 CFR Part 22 – "Suggested Award Provisions for National Policy Requirements that Often Apply," incorporated here by reference.

d. Acknowledgement of Research Support (Required)
Award recipients must acknowledge support provided by the Government in all materials based on or developed under AFOSR awards. This requirement also applies to sub-recipients.

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 and the Defense Health Agency under award number _____."

e. Disclaimer Language for Research Materials and Publications (As Required)

Some materials based on or developed under AFOSR awards must include disclaimer language.

(1) Scientific articles or papers published in scientific journals do not require a disclaimer.

(2) All other materials must include the following disclaimer unless the 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."

f. Grants – Uniform Administrative Requirements, Cost Principles, and Audit Requirements (As Required)
AFOSR grants are governed by the guidance in 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 of Guidance in 2 CFR Part 1103 [79 FR 76047, December 19, 2014], all of which are incorporated by reference in AFOSR grants. 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 are incorporated by reference in AFOSR grants, with applicability as stated.

g. Grants – DoD Research and Development General Terms and Conditions (As Required)
The DoD Research and Development General Terms and Conditions, September 2021 (DoD T&C) found at https://www.nre.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions will apply to any grant award made under this announcement.

h. Recipients Other Than Individuals
Applicants 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.

i. Minimum Record Retention Requirements

(1) The minimum retention period for financial records, supporting documents, statistical records, and all other records pertinent to a federal award is three years from the date of submission of the final expenditure report or receipt of final payment, whichever is later. This requirement is described further in 2 CFR 200.333 incorporated here by reference.

(2) A longer retention period may be required in some circumstances

4. REPORTING

a. Monitoring and Reporting Program Performance

(1) Grant awards typically require annual and final performance reports. The grant document will include a schedule specifying the latest date for each required report submission.
(2) Awards typically require annual and final performance reports at a minimum. The grant will include reporting instructions and a schedule specifying the latest date for each required report submission.

b. Standard Form (SF) 298 Report Documentation Page

(1) SF 298 Report Cover Page on Final Technical Report (Required)
(2) All final technical performance reports must include a completed SF 298 Report Documentation Page as the first page of the report. The form is available electronically at http://www.gsa.gov/portal/forms/download/116146.
(3) SF 298 Report Cover Page on Interim and Annual Technical Reports (Optional)
(4) The SF 298 Report Documentation Page may be used as the cover page for all interim technical reports but is not required at this time.

c. Technical Performance Report Format

AFOSR is working on a Federal-wide Research Progress Performance Report (RPPR) Format for interim, annual, and final research performance reports. You do not have to use the RPPR right now. DoD plans to use the report in the future.

d. Department of Defense (DD) Form 882 Report of Inventions and Subcontracts (Required)

(1) Invention Reports
The DD Form 882 is used to provide invention reports. The form is available at https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd0882.pdf.
(a) Grant awards require a final invention report. The final invention report must be submitted for all grant awards, including efforts that result in no inventions. If there is no invention to report, the final invention report must indicate such.
(2) Sub-award and Subcontract Reporting (As Required)
The DD Form 882 is used to provide sub-award and subcontract reports. The form is available at https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd0882.pdf.

e. Standard Form (SF) 425 Federal Financial Report

(1) All grant awards require a final SF 425 Federal Financial Report submission. The form is available at OMB Grant Forms.
(2) Grant awards that receive any payment by advance require submission of quarterly SF 425 Federal Financial Report submissions for the life of the grant.

f. Electronic Payment Requests and Electronic Payment

(1) All award recipients must use the Invoicing, Receipt, Acceptance, and Property Transfer (iRAPT) application unless your award specifies different instructions. Domestic grant payments must be made using the electronic funds transfer (EFT) method.
To submit electronic payment requests you must register to use iRAPT in the Wide Area Workflow (WAWF) e-Business Suite at https://piee.eb.mil. The website includes registration instructions.
(2) WAWF Vendor Customer support is available by telephone at (866) 618-5988 or (801) 605-7095, by electronic mail at disa.ogden.esd.mbx.cscassig@mail.mil, or https://wawf.eb.mil/xhtml/unauth/web/homepage/vendorCustomerSupport.xhtml.
(3) All payments must be made using the electronic funds transfer (EFT) method.

g. Property Reports

If we furnish 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 for grants by the DoD T&C REP Article III. Reporting on Property.

h. Other Reports

(1) The Program Officer may request informal technical reports for program purposes as needed. Informal reports should be delivered by electronic mail to the Program Officer.
(2) The specific circumstances and requirements of each effort may require additional reporting if required by statute, regulation, policy, or for any other necessary official purpose.

i. Electronic Submission of Technical, Invention, and SF 425 Reports (Required)

Applicants should plan on submitting reports electronically. The grant document will provide specific submission instructions that must be followed. Most reports may be submitted through the internet application at https://community.apan.org/wg/afosr/p/deliverables; Final Invention Report and Final Federal Financial Reports at afrl.afosr.pkcontracting@us.af.mil.

G. AGENCY CONTACTS

1. TECHNICAL INQUIRES AND QUESTIONS

All questions must be submitted in writing by electronic mail. **Please include the FOA number in the subject line and indicate whether it is a technical or general inquiry**. Questions presented by telephone call, fax message, or other means will not receive a response.

DR. PATRICK BRADSHAW
AFOSR/RTB2
Program Officer
Email: **patrick.bradshaw.3@us.af.mil** or **afosr.rtb.mmppfoa@us.af.mil**

2. GENERAL INQUIRIES AND QUESTIONS

Your questions will generally be consolidated with other questions and posted on Grants.gov so everyone has access to the same information. We may provide an individual response by electronic mail if the question does not apply to anyone else. **Please include the FOA number in the subject line and indicate whether it is a technical or general inquiry**.

MS. PATRICIA S GORSKI
AFOSR/RBKR2
Grants Officer
Email: **afosr.rtb.mmppfoa@us.af.mil**

H. 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 OFFICER AUTHORITY

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

No other individuals are authorized to make commitments or otherwise bind the Government.

3. ADDITIONAL FUNDING OPPORTUNITIES

Please visit Grants.gov website at https://www.grants.gov/web/grants/home.html to explore additional research areas and funding opportunities. We post new funding opportunities throughout the year looking for today's breakthrough science for tomorrow's Air Force.

Thank you for your interest in this announcement.