Broad Agency Announcement

Focused Pharma

BIOLOGICAL TECHNOLOGIES OFFICE

HR001119S0092

September 16, 2019

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- **Federal Agency Name –** Defense Advanced Research Projects Agency (DARPA), Biological Technologies Office (BTO)
- **Funding Opportunity Title –** Focused Pharma
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001119S0092
- **North American Industry Classification System (NAICS) –** 541714
- **Catalog of Federal Domestic Assistance Numbers (CFDA) –** 12.910 Research and Technology Development
- **Dates**
  - Posting Date: September 16, 2019
  - Proposal Abstract Due Date & Time: Tuesday, October 15, 2019, 4:00 PM ET
  - Full Proposal Due Date & Time: Tuesday, November 19, 2019, 4:00 PM ET
  - BAA Closing Date: Tuesday, November 19, 2019
  - Proposers Day: Tuesday, October 1, 2019

https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-SN-19-78/listing.html

- **Concise description of the funding opportunity –** Military service members and veterans face serious occupational trauma; one element in particular relates to the significantly increased risk of acute and chronic neuropsychiatric conditions. Neuropsychiatric conditions in the military are particularly impactful because options for treating them are limited. No therapy currently exists that can deliver rapid relief of neuropsychiatric symptoms and is reasonable for use in a broad spectrum of conditions. Neuropsychiatric conditions are complex, and presentation is highly subject to significant inter-individual variability. Focused Pharma aims to develop new drugs that target specific neurotransmitter receptor signaling modes to deliver near immediate relief that is generalizable across indications and individuals.
- **Types of instruments that may be awarded –** Procurement contract, cooperative agreement, or Other Transaction.
- **Any cost sharing requirements –** Cost sharing may be required under applicable statutory regulations for Other Transactions for type projects awarded under the authority of 10 U.S.C. § 2371b.
- **Agency contact**

  The BAA Coordinator for this effort may be reached at:
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  ATTN: HR001119S0092
  675 North Randolph Street
  Arlington, VA 22203-2114

PART II: FULL TEXT OF ANNOUNCEMENT

1. Funding Opportunity Description

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA.

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative proposals that will integrate protein structure-based drug design, high-throughput and high-content screening, multi-omic profiling of drug effects, and mechanism of action characterization with well-established rodent behavioral models of neuropsychiatric conditions (e.g., depression, anxiety, addiction) to generate receptor subtype-selective and signaling pathway-specific drugs.

Specifically excluded is research that involves:

1. Repurposing or elaboration of analogs of previously studied receptor ligands and/or molecules that exhibit hallucinogenic effects.
2. Investigation of novel pharmacodynamic space for known therapeutics to identify additional indications, i.e., drug repurposing.
3. Genetic manipulation in order to aid target engagement or achieve altered downstream signaling.
4. Initial employment of non-structure based molecule design and discovery.
5. Sole use of animal model systems or model system assays that are not generally accepted as representative of the respective indication.
6. Utilization of biological polymers (e.g., antibodies, aptamers, designer proteins, etc.) to engage receptors of interest or elicit a downstream signaling response.

Proposals that employ the approaches described in the above list may be deemed non-responsive and may not be considered for review.

1.1. PROGRAM OVERVIEW

Current treatment options for neuropsychiatric conditions typically involve some combination of psychotherapy, electrical stimulation, and/or psychopharmacology. Each of these strategies has significant limitations that hinder use, notably effectiveness, time-to-therapeutic onset, and/or invasiveness. Psychotherapy generally relies on the establishment of rapport between a patient and therapist in a dedicated setting, and requires repeated sessions over long periods of time (weeks to months) to realize therapeutic benefits. Electrical stimulation approaches, such as electroconvulsive therapy (ECT) and deep brain stimulation (DBS), require hospitalization and are not rapidly deployable. ECT is limited by lack of specificity, ill-understood mechanisms, and undesirable side effects that limit its use. DBS offers greater temporal and spatial precision but requires invasive brain surgery and is therefore not practical for immediate use in an operational setting. Psychopharmacological approaches currently used for treatment of neuropsychiatric conditions suffer from both the need for long treatment durations, and in many cases, slow onset

and/or potential for abuse and dependence. Taken together, current therapeutic options are largely palliative in nature and are ill-suited for rapid intervention.

To develop a broad-spectrum, fast-acting therapy, the Focused Pharma program will support medicinal chemistry and neuropharmacology approaches to develop novel drugs that treat a range of neuropsychiatric conditions by targeting specific neurotransmitter receptor subtypes and neuromodulatory pathways. Phenomenological evidence exists for drugs that can elicit rapid and sustained therapeutic effects following a limited number of doses. Mechanistically, these drugs tend to involve the potent activation of specific neurotransmitter receptor subtypes; however, the prevalence of undesirable side effects associated with their use limits practical application in clinical and military medical settings. Moreover, it is postulated that physiological and behavioral effects of specific receptor subtype activation result from a mixture of signaling pathways downstream of the receptor. To date, the phenotypic and therapeutic effects of drugs with pathway-biased activity downstream of neurotransmitter receptors remain largely unexplored. Focused Pharma will explore the potential therapeutic applications of drugs designed to not only selectively activate certain neurotransmitter receptor subtypes, but that also bias the activity towards specific intracellular signaling pathways to enable rapid therapeutic mitigation of neuropsychiatric symptoms in the absence of hallucinogenic or acutely rewarding effects. Proposals to the Focused Pharma program should include approaches to achieve the following:

1. Structure-guided drug design utilizing high-resolution models of neurotransmitter receptor subtype(s) with documented functional roles in depression, anxiety, and addiction.
2. Novel chemotypes with signaling pathway specificity downstream of the primary drug target.
3. Confirmation of drug therapeutic effects and physiological mechanisms using robust and widely accepted animal model systems. Novel lead molecules must not exhibit rewarding or hallucinogenic phenotypic effects in the appropriate model systems and at relevant doses.

1.2. PROGRAM STRUCTURE AND TECHNICAL APPROACH

The Focused Pharma research and development program is divided into two sequential phases and will investigate two Technical Areas (TAs) over 48 months: Phase 1 (Base - 24 months): Develop novel chemotypes and establish activity profiles; and Phase 2 (Option - 24 months): Demonstrate and optimize therapeutic activity and mechanism of action. Proposals must address both TAs for exactly four years (two 24-month phases), along with the necessary expertise required for meeting the program milestones (see Table 1). Proposals utilizing multiple teams (from the same or different institutions) and/or developing multiple approaches to addressing the TA goals should be assembled as a single research entity, and must propose and report as such.

Focused Pharma is composed of the following Technical Areas:

Technical Area 1 (TA1): Design and synthesis of novel drug chemotypes with receptor specificity and signaling pathway bias.

In TA1, proposers must utilize high-resolution molecular structures of target receptor proteins to inform the design and synthesis of novel small molecules that selectively engage the specific receptors in a manner that preferentially activates select downstream signaling pathway(s). The molecules of interest should show a greater than 10-fold selectivity for the target receptor over closely related anti-targets. The goals in TA1 are to develop a pipeline with the capability to iteratively optimize the design and activity of novel ligands. Such a pipeline should contain the following components: (1) Informed selection of receptor subtype(s) based on evidence for functional roles in the neuropsychiatric conditions of interest; (2) Structural determination of liganded receptors and establishment of docking poses conferring signaling bias; and (3) *In vitro* assessment of receptor-mediated function and validation of predicted signaling bias.

Proposers must provide explicit rationale for selected neurotransmitter receptor target(s), specifically with regard to involvement of the receptor(s) in the pathology and/or treatment of the neuropsychiatric conditions of interest. Proposed efforts should include both practical methods for receptor protein structure determination, such as X-ray crystallography and/or cryo-electron microscopy, as well as computational approaches, such as homology modeling and molecular dynamics simulations. Since successful drug development for this program requires discovery of compounds that can reliably discriminate binding between closely related receptors, it is critical that the effort employ empirical and iterative determination of drug-receptor interactions at the atomic scale. For example, a novel chemotype of predicted value as a lead compound based on activity profiles *in vitro* must be subjected to a subsequent attempt at structure determination. In order to prioritize translatability for a human condition, receptor structure determination must begin with human protein sequences and deviate minimally from sequences of interest. Proposers must utilize these models to design new chemotypes according to predicted structural conformations with associated binding of specific ligands (at least 10,000 chemotypes docked *in silico*). Specifically excluded are methods that rely on high-throughput phenotypic screening of existing compound libraries as a first step or that use analogs of existing ligands for the receptor target(s) as hit compounds.

Following the generation of novel chemotypes from the receptor structure-guided design effort, prioritized compounds should be pharmacologically characterized *in vitro*, including but not limited to: ligand binding parameters (K_d, residence time, B_{max}), endogenous ligand displacement, receptor subtype specificity, activity profile on receptor-initiated signal transduction (agonist/partial agonist/antagonist/inverse agonist), and pathway selectivity (for example, G-protein mediated vs. β-arrestin).

Functional cellular/*in vitro* assays should utilize appropriate receptor subtypes and signal transduction machinery expressed either endogenously by, or introduced into, a relevant model system. Additionally, cellular systems should be manipulated in a minimal fashion that is appropriate for the output of the employed assay. Where appropriate, functional consequences of heterotypic receptor oligomerization should be explored; for instance, where target receptors are known to form functional complexes with another receptor, a model system should be employed that enables formation of the endogenously active complex.

Technical Area 2 (TA2): Demonstrate drug effects and determine mechanisms of action.

The critical end product of the Focused Pharma program is a set of compounds demonstrating superior and rapid therapeutic activity in neuropsychiatric conditions that are commonly encountered by military service members. As such, all TA1-generated compounds satisfying criteria to be considered potential drug leads must be evaluated in animal behavioral model systems to establish their utility as therapeutics. In addition, leads prioritized from TA1 must be compared to current psychopharmacological interventions to establish mechanistic and phenotypic overlap and differences. Mechanisms of action should be described in terms of behavioral and physiological phenotype, as well as molecular signature. The combined outputs of TA2 must be used to inform the submission of an application for consideration as an investigational new drug (IND) to the FDA by program end. In order to do such, proposers must also consider and outline methods to optimize and characterize the formulation of lead compound(s) to satisfy requirements towards an IND.

Newly discovered lead compounds must be evaluated for behavioral phenotypic effects in established animal models with robust translational validity. Focused Pharma is specifically interested in establishing therapeutic effects in the following neuropsychiatric indications: depression, anxiety, and addiction. In order to assess the translational effectiveness of the novel compounds, proposers must assess therapeutic efficacy in at least four behavioral assays for each indication. Moreover, compounds developed must be demonstrated to gain access to the central nervous system. Of specific interest to the Focused Pharma program is the development of novel reporters for *in vivo* pharmacokinetics (i.e., distribution and tissue-specific accumulation) and methods to describe absorption, distribution, metabolism, and elimination (ADME) of the newly developed compounds. Proposers must also demonstrate that the compounds are devoid of hallucinogenic and acutely rewarding effects when administered at therapeutic doses. A minimum of two behavioral assays for hallucinogenic effects and two assays for assessment of rewarding effects must be employed to ascertain the existence of a favorable therapeutic profile. In addition, where selected receptor subtype(s) differ in amino acid sequence between humans and mice, efforts must include a transgenic mouse model expressing humanized target receptor(s) in order to recapitulate human receptor-driven effects.

Differences in activation of receptor subtypes and downstream signaling pathways can lead to distinct phenotypic effects. The molecular mechanisms underlying these disparate outcomes are often not well-understood but may be critical for optimization of therapeutic efficacy. The Focused Pharma program will involve the generation of *in vivo* neurochemical signatures for comparison and evaluation. Drugs acting via neurotransmitter receptor activation induce changes in intracellular signaling mediated by multiple transduction pathways, and the contributions of these various effectors to the observed phenotypes must be established. Proposers must characterize the downstream signaling events subsequent to receptor binding using unbiased profiling methodologies (e.g., protein post-translational modifications (PTMs), synaptoproteomics, and/or transcriptional profiling). Additional relevant information on neurobiological effects such as neuronal morphology (e.g., spine analysis, arborization, and/or neuritogenesis) must also be detailed to further inform the mechanisms underlying phenotypic effects.

To meet the end goals of the Focused Pharma program, therapeutic molecules should exhibit rapid therapeutic effect onset (<4 hours) and a normalized effect size exceeding the mean of archetypal compounds studied in human clinical populations (Cohen's d of 1.4 relative to control). Proposers must also determine the duration of therapeutic efficacy following a single administration of novel compounds.

It is possible that effects of novel drugs are driven by specific cell types and/or brain regions. Thus, DARPA is interested in methods under TA2 to investigate effects of the novel drugs isolated to specific cell types and brain regions. Proposers who choose to investigate cell-type and/or brain-region specificity of novel drug effects must provide empirical and/or theoretical rationale for the proposed cell types and brain regions to be investigated. Such proposals must present a plan to demonstrate phenotypic outcomes of cell-type and/or brain-region selective targeting of novel drug(s), compared to non-selective delivery of the same novel drug(s), in at least four behavioral assays in one or more of the mouse models of neuropsychiatric indications.

1.3. PROGRAM METRICS

Proposals must follow the program metric structure below:

Phase 1 (Base):

Proposers should generate high-resolution structures of target receptor proteins, as well as establish ligand poses associated with the ability to preferentially bind targets over anti-targets and to selectively activate specific downstream signaling pathways. At least 10,000 novel chemotypes should be docked *in silico*, and *in vitro* selectivity of target engagement should be shown to be in excess of 10-fold relative to anti-target binding. Signaling bias for lead compounds should be shown relative to established agonists for the target receptor(s). *In vivo* central nervous system access should be shown for novel compounds moving forward into animal model systems.

Phase 1 performers will be assessed against metrics (Table 1) for the program that include the demonstration of central nervous system-active compounds that engage the receptor target(s) of interest with downstream pathway specificity, and that are devoid of hallucinogenic and rewarding behavioral effects *in vivo*. Failure to meet these metrics may disqualify the performer from progressing into Phase 2.

Phase 2 (Option):

Proposers must optimize efficacy of novel compounds and establish characteristics and duration of therapeutic effects in at least four animal behavioral models per each of three neuropsychiatric indications (depression, anxiety, and addiction). These first-in-class drug candidates should show effect onset in less than four hours following systemic administration. The effect size should be in excess of the mean established in human clinical trials for archetypal compounds (Cohen's d of 1.4 or greater relative to control), shown for all three neuropsychiatric indications of interest. Therapeutic efficacy in animal models of neuropsychiatric indications should be evaluated by testing dose-response relationships for symptom control and longevity following single and repeated compound administration. Moreover, proposers must demonstrate that candidate drugs

do not exhibit hallucinogenic effects or acutely rewarding effects, using at least two animal behavioral assays per each of these undesirable effects.

Table 1 below lists Milestones and Metrics for the Focused Pharma program.

Phase 1: 24 Months	**Milestone:** Generation of novel drug molecules with specific receptor-mediated activity and no hallucinogenic or acutely rewarding effects **Metrics:** • At least 10,000 novel molecules produced from docking on receptor structures • Quantitative demonstration of 10-fold selectivity over anti-targets • Demonstration of pathway-selective receptor-mediated activity in neuronal cells *in vitro* • Positive assay for central nervous system access after oral or intravenous administration • Negative for hallucinogenic effects in at least two established mouse behavioral models • Negative for acutely rewarding effects in at least two established mouse behavior models
Phase 2: 24 Months	**Milestone:** First-in-class lead compounds with rapid therapeutic activity **Metrics:** • Show rapid effect onset (<4 hours) in at least four mouse behavioral models in each of three neuropsychiatric conditions (depression, anxiety, addiction) • Devoid of hallucinogenic effects at therapeutically representative doses in at least two accepted and established mouse behavioral models • Devoid of acutely rewarding effects at therapeutically representative doses in at least two accepted and established mouse models • Effect size equivalent to human clinical studies with archetypal compounds (Cohen's d of 1.4 or greater relative to vehicle control)

Table 1: Milestones and Metrics

2. Award Information

2.1. GENERAL AWARD INFORMATION

Multiple awards are possible. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of

a proposal, negotiations may be opened with that proposer. The Government reserves the right to fund proposals in phases with options for continued work, as applicable.

The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications (see Section VI.B.2., "Representations and Certifications"). The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions, and/or cost/price within a reasonable time, and the proposer fails to timely provide requested additional information. Proposals identified for negotiation may result in a procurement contract, cooperative agreement, or Other Transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors.

Proposers looking for innovative, commercial-like contractual arrangements are encouraged to consider requesting Other Transactions. To understand the flexibility and options associated with Other Transactions, consult http://www.darpa.mil/work-with-us/contract-management#OtherTransactions.

In accordance with 10 U.S.C. § 2371b(f), the Government may award a follow-on production contract or Other Transaction (OT) for any OT awarded under this BAA if: (1) that participant in the OT, or a recognized successor in interest to the OT, successfully completed the entire prototype project provided for in the OT, as modified; and (2) the OT provides for the award of a follow-on production contract or OT to the participant, or a recognized successor in interest to the OT.

In all cases, the Government contracting officer shall have sole discretion to select award instrument type, regardless of instrument type proposed, and to negotiate all instrument terms and conditions with selectees. DARPA will apply publication or other restrictions, as necessary, if it determines that the research resulting from the proposed effort will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program. For more information on publication restrictions, see the section below on Fundamental Research.

2.2. FUNDAMENTAL RESEARCH

It is DoD policy that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. National Security Decision Directive (NSDD) 189 defines fundamental research as follows:

> 'Fundamental research' means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

As of the date of publication of this BAA, the Government expects that program goals as described herein may be met by proposers intending to perform fundamental research and does not anticipate applying publication restrictions of any kind to individual awards for fundamental research that may result from this BAA. Notwithstanding this statement of expectation, the Government is not prohibited from considering and selecting research proposals that, while perhaps not qualifying as fundamental research under the foregoing definition, still meet the BAA criteria for submissions. If proposals are selected for award that offer other than a fundamental research solution, the Government will either work with the proposer to modify the proposed statement of work to bring the research back into line with fundamental research or else the proposer will agree to restrictions in order to receive an award.

Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at http://www.darpa.mil/work-with-us/additional-baa.

For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed subawardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed subawardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

3. Eligibility Information

3.1. ELIGIBLE APPLICANTS

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA.

3.1.1. Federally Funded Research and Development Centers (FFRDCs) and Government Entities

FFRDCs

FFRDCs are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity unless they meet the following conditions. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. These conditions are a requirement for FFRDCs proposing to be awardees or subawardees.

Government Entities

Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

Authority and Eligibility

At the present time, DARPA does not consider 15 U.S.C. § 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C.§ 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider FFRDC and Government Entity eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

3.1.2. Non-U.S. Organizations

Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

3.2. ORGANIZATIONAL CONFLICTS OF INTEREST

FAR 9.5 Requirements

In accordance with FAR 9.5, proposers are required to identify and disclose all facts relevant to potential OCIs involving the proposer's organization and *any* proposed team member (subawardee, consultant). Under this Section, the proposer is responsible for providing this disclosure with each proposal submitted to the BAA. The disclosure must include the proposer's, and as applicable, proposed team member's OCI mitigation plan. The OCI mitigation plan must include a description of the actions the proposer has taken, or intends to take, to prevent the existence of conflicting roles that might bias the proposer's judgment and to prevent the proposer from having unfair competitive advantage. The OCI mitigation plan will specifically discuss the disclosed OCI in the context of each of the OCI limitations outlined in FAR 9.505-1 through FAR 9.505-4.

Agency Supplemental OCI Policy

In addition, DARPA has a supplemental OCI policy that prohibits contractors/performers from concurrently providing Scientific Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS) or similar support services and being a technical performer. Therefore, as part of the FAR 9.5 disclosure requirement above, a proposer must affirm whether the proposer or *any* proposed team member (subawardee, consultant) is providing SETA, A&AS, or similar support to any DARPA office(s) under: (a) a current award or subaward; or (b) a past award or subaward that ended within one calendar year prior to the proposal's submission date.

If SETA, A&AS, or similar support is being or was provided to any DARPA office(s), the proposal must include:

- The name of the DARPA office receiving the support;
- The prime contract number;
- Identification of proposed team member (subawardee, consultant) providing the support; and
- An OCI mitigation plan in accordance with FAR 9.5.

Government Procedures
In accordance with FAR 9.503, 9.504 and 9.506, the Government will evaluate OCI mitigation plans to avoid, neutralize or mitigate potential OCI issues before award and to determine whether it is in the Government's interest to grant a waiver. The Government will only evaluate OCI mitigation plans for proposals that are determined selectable under the BAA evaluation criteria and funding availability.

The Government may require proposers to provide additional information to assist the Government in evaluating the proposer's OCI mitigation plan.

If the Government determines that a proposer failed to fully disclose an OCI; or failed to provide the affirmation of DARPA support as described above; or failed to reasonably provide additional information requested by the Government to assist in evaluating the proposer's OCI mitigation plan, the Government may reject the proposal and withdraw it from consideration for award.

3.3. COST SHARING/MATCHING

Cost sharing is not required; however, it will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument. Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

4. Application and Submission Information

4.1. ADDRESS TO REQUEST APPLICATION PACKAGE

This announcement, any attachments, and any references to external websites herein constitute the total solicitation. If proposers cannot access the referenced material posted in the announcement found at http://www.darpa.mil, contact the administrative contact listed herein.

4.2. CONTACT AND FORM OF APPLICATION SUBMISSION

All submissions, including abstracts and proposals, must be written in English with type no smaller than 12-point font. Smaller font may be used for figures, tables, and charts. The page limitation includes all figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11 inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title.

4.2.1. Proposal Abstract Format

Proposers are strongly encouraged to submit an abstract in advance of a proposal to minimize effort and reduce the potential expense of preparing an out of scope proposal. The abstract is a concise version of the proposal comprising a maximum of **8** pages including all figures, tables,

and charts. The submission letter is not included in the page count. All submissions must be written in English with type no smaller than 12-point font. Smaller font may be used for figures, tables, and charts. The page limitation for abstracts includes all figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11 inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal abstract title/proposal abstract short title.

Abstracts must include the following components:

A. Cover Sheet (does not count towards page limit): Include the administrative and technical points of contact (name, address, phone, fax, email, lead organization). Also include the BAA number, title of the proposed project, primary subcontractors, estimated cost, duration of the project, and the label "ABSTRACT."

B. Goals and Impact: Clearly describe what is being proposed and what difference it will make (qualitatively and quantitatively), including brief answers to the following questions:

1. What is the proposed work attempting to accomplish or do?
2. How is it done today? And what are the limitations?
3. What is innovative in your approach and how does it compare to the current state-of-the-art (SOA)?
4. What are the key technical challenges in your approach and how do you plan to overcome these?
5. Who will care and what will the impact be if you are successful?
6. How much will it cost and how long will it take? Ensure that the cost and schedule are aligned with the phases outlined in Table 1.

C. Technical Plan: Outline and address all technical challenges inherent in the approach and possible solutions for overcoming potential problems. This section should provide appropriate specific milestones at intermediate stages of the project to demonstrate progress, and a brief plan for accomplishment of the milestones.

D. Capabilities: Provide a brief summary of expertise of the team, including subcontractors and key personnel. A principal investigator (PI) for the project must be identified. No more than two resumes should be included as part of the abstract, and one resume must be from the PI. Resumes do not count as part of the page limit. Include a description of the team's organization including roles and responsibilities. Describe the organizational experience in this area, existing intellectual property required to complete the project, and any specialized facilities to be used as part of the project. List Government-furnished materials or data assumed to be available. If desired, include a brief bibliography with links to relevant papers, reports, or resumes of key personnel.

E. Cost and Schedule: Cost and schedule for the proposed research, including an estimate of (a) total cost, (b) cost for each task in each phase of the effort by prime and major subcontractors, and (c) any cost share (if applicable).

4.2.2. Proposal Format

All full proposals must be in the format given below. Proposals shall consist of two volumes: 1) **Volume I, Technical and Management Proposal**, and 2) **Volume II, Cost Proposal.** All submissions must be written in English with type no smaller than 12-point font. A smaller font may be used for figures, tables, and charts. The page limitation includes all figures, tables, and charts. All pages shall be formatted for printing on 8-1/2 by 11- inch paper. Margins must be 1-inch on all sides. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title. Volume I, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers may be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. **The maximum page count for Volume 1 is 35 pages.** The submission letter is not included in the page count. Volume I should include the following components:

NOTE: Non-conforming submissions that do not follow the instructions herein may be rejected without further review.

a. Volume I, Technical and Management Proposal

Section I. Administrative

A. Cover Sheet (LABELED "PROPOSAL: VOLUME I"):

1. BAA number (HR001119S0092);
2. Lead organization submitting proposal (prime contractor);
3. Type of organization, selected from among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
4. Proposer's reference number (if any);
5. Other team members (if applicable) and type of business for each;
6. Proposal title;
7. Technical point of contact (Program Manager or Principal Investigator) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, e-mail;
8. Administrative point of contact (Contracting Officer or Award Officer) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax, e-mail;
9. Award instrument requested: cost-plus-fixed-free (CPFF), cost-contract—no fee, firm-fixed-price, cooperative agreement, other transaction, or other type (specify);
10. Place(s) of performance, including all subcontractors and consultants;

11. Period of performance;
12. Total funds requested from DARPA, total funds requested per phase (as defined in Table 1), and the amount of any cost share (if any);
13. Proposal validity period; AND
14. Date proposal was submitted.

Information on award instruments is available at http://www.darpa.mil/work-with-us/contract-management.

B. Official Transmittal Letter.

Section II. Detailed Proposal Information

A. Executive Summary (1-2 pages): Provide a synopsis of the proposed project, including answers to the following questions:

- What is the proposed work attempting to accomplish or do?
- How is it done today, and what are the limitations?
- What is innovative in your approach? How is your approach better than the current state-of-the-art, alternative approaches, and previous efforts? Why do you think your approach will succeed? Summarize scientific rationale supporting your approach.
- What are the key technical challenges in your approach and how do you plan to overcome these?
- Who or what will be affected and what will be the impact if the work is successful?
- How much will it cost, and how long will it take? Ensure that the cost and schedule are aligned with the phases outlined in Section 1.4 Program Metrics and as outlined in Table 1.

B. Goals and Impact (1-2 pages): Clearly describe what the team is trying to achieve and the difference it will make (qualitatively and quantitatively) if successful. Describe the innovative aspects of the project in the context of existing capabilities and approaches, clearly delineating the uniqueness and benefits of this project in the context of the state of the art, alternative approaches, and other projects from the past and present. Describe how the proposed project is revolutionary and how it significantly rises above the current state-of-the-art. Describe the deliverables associated with the proposed project and any plans to commercialize the technology, transition it to a customer, or further the work.

C. Technical Plan (12 -15 pages): Provide a detailed scientific rationale and description of the planned approach and execution plan. The technical plan should demonstrate a deep understanding of the scientific challenges and present a credible (even if risky)

plan to achieve the program goals. The technical approach should address all applicable proposal content instructions in Sections 1.1 – 1.4.

a. **Approach:** Describe the scientific and technical approach. Hypotheses should be articulated clearly and include a rigorous test plan with quantitative metrics to yield unambiguous results. Experimental designs and procedures must be described thoroughly, including aspects such as equipment, behavioral paradigms, animal models, approximate numbers of subjects, software, analysis plan, statistical reporting etc. Figures and diagrams that help illustrate the experimental design may be included.
b. **Rationale:** Provide a clear rationale for the approach, including a justification for the feasibility of the proposed task. Proposers are highly encouraged to include supporting data when available, even if preliminary. Figures included within the proposal should be accompanied by a brief description of how data was collected, what analysis was performed, what the results mean, and why the result supports the feasibility of the proposed task.
c. **Schedule:** Include a narrative overview of the timeline of the task/objective. Intermediate milestones and final completion criteria should be identified along with the quantitative metrics that will be used to evaluate progress. Include a one-page high-level graphical (Gantt or flow chart style) timeline of the outlined tasks/objectives described in the Scientific Approach and Plan.
d. **Challenges and Risks:** Articulate the scientific and technical challenges and risks facing this effort. Include a risk mitigation plan including possible solutions for overcoming potential hurdles or alternative approaches.
e. **Personnel:** Identify the personnel responsible for each major task (e.g. "led by Jane Smith with support from one graduate student at 50% effort").

D. **Management Plan (2-3 pages):** Provide a summary of expertise of the team, including any subcontractors, and key personnel who will be doing the work. Include an organization chart for the entire team which includes, as applicable: (1) the programmatic relationship of team member; (2) the unique capabilities of team members; (3) the task responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel along with the amount of effort to be expended by each person during each year. Resumes do not count against the proposal page count. Identify a principal investigator for the project. Proposals must designate a project manager for the entirety of the effort. The project manager will serve alongside the PI as a primary point of contact for scientific and administrative matters, and will ideally hold an advanced degree in a relevant field of study. Provide a detailed plan for coordination including explicit guidelines for interaction among collaborators/subcontractors of the proposed effort. Numbers of dedicated personnel at all hierarchical levels of the effort should reflect the substantial scale anticipated to

meet the critical program objectives and contain detailed information about specific expertise.

E. Capabilities (1-3 pages): Describe organizational experience in relevant subject area(s), existing intellectual property, specialized facilities, and any Government-furnished materials or information. Discuss any work in closely related research areas and previous accomplishments. Include a description of the facilities that would be used for the proposed effort.

F. Statement of Work (SOW) (3-6 pages): The SOW must be read as a stand-alone document without references to text or figures included in Section B. Each Phase of the program should be defined separately: Phase 1 (Base) and Phase 2 (Option). Dependencies between tasks and/or subtasks should be identified clearly. The SOW should provide a detailed task breakdown, citing specific tasks and their connection to the interim milestones and program metrics. The SOW must not include proprietary information.

For each task/subtask, provide:

- A detailed description of the approach to be taken to accomplish each defined task/subtask.
- Identification of the primary organization responsible for task execution (prime contractor, subcontractor(s), consultant(s), by name).
- A measurable milestone, i.e., a deliverable, demonstration, or other event/activity that marks task completion. Include completion dates for all milestones. Include quantitative metrics.
- A definition of all deliverables (e.g., data, reports, software) to be provided to the Government in support of the proposed tasks/subtasks.

G. Schedule and Milestones (1-3 pages): Provide a detailed schedule showing tasks (task name, duration, work breakdown structure element as applicable, performing organization), milestones, and the interrelationships among tasks. The task structure must be consistent with that in the SOW. Measurable milestones should be clearly articulated and defined in time relative to the start of the project.

H. Transition Plan (0.5-1 pages): Proposals are encouraged to outline a plan for potential clinical translation of the products that are developed in Focused Pharma. While Focused Pharma is a fundamental research program, it is anticipated that the capabilities, knowledge, and products developed by the end of the program will be suitable for advanced development for medical use and for National Security purposes. It is DARPA's vision that by the end of the program, proposers should have identified partners for transition into satisfying requirements for an IND as determined by the

FDA. Proposers are encouraged, but not required, to consult with FDA via a Pre-Submission meeting and/or study risk designation request prior to applying. Additionally, transition elements should include aspects of commercial ventures, licensing agreements, or other pathways from basic research into health and medical applications.

I. Summary Slides (Does not count towards page limit; two (2) slides maximum): PowerPoint slide(s) summarizing the proposed effort's vision, goals, impact, scientific/technical approach, and milestone schedule. Download and use the template provided in **Attachment 1** posted with the subject BAA. Submit the PowerPoint file in addition to Volume I and II of your proposal.

a. Volume II, Cost Management Proposal

Cover Sheet (LABELED "PROPOSAL: VOLUME II"):

1. BAA Number (HR001119S0092);
2. Technical area;
3. Lead Organization Submitting proposal;
4. Type of organization, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT";
5. Proposer's reference number (if any);
6. Other team members (if applicable) and type of business for each;
7. Proposal title;
8. Technical point of contact (Program Manager or Principal Investigator) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
9. Administrative point of contact (Contracting Officer or Award Officer) to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
10. Award instrument requested: cost-plus-fixed-free (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), cooperative agreement, or other transaction;
11. Place(s) of performance, including all subcontractors and consultants;
12. Period of performance;
13. Total funds requested from DARPA, total funds requested per phase (as defined in Table 1), and the amount of any cost share (if any);
14. Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (*if known)*;

15. Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
16. Date proposal was prepared;
17. DUNS number (http://www.dnb.com/get-a-duns-number.html);
18. Taxpayer ID number (https://www.irs.gov/Individuals/International-Taxpayers/Taxpayer-Identification-Numbers-TIN);
19. CAGE code (https://cage.dla.mil/Home/UsageAgree);
20. Proposal validity period

Note that nonconforming proposals may be rejected without review.

The Government encourages proposers to complete an editable MS excel budget template that covers many of the items discussed below. This template document is provided as **Attachment 2** to this BAA. If proposers choose to use **Attachment 2**, submit the MS Excel template in addition to Volume I and II of their proposal. The template is not a Volume II alternative. Volume II must include all other items discussed below that are not covered by the editable MS excel budget template. Proposers are welcome to utilize an alternative format, provided the information requested below is clearly and effectively communicated.

(1) Please submit any breakdown of expenses in an editable, MS EXCEL cost file.
(2) Total program, per phase (Phase 1 (Base) and Phase 2 (Option); and per task cost broken down by major cost items to include:
   i. **Direct labor** – provide an itemized breakout of all personnel, listed by name or TBD, with labor rate (or salary), labor hours (or percent effort), and labor category. All senior personnel must be identified by name.
   ii. **Materials and Supplies** – itemized list which includes description of material, quantity, unit price, and total price. If a material factor is used based on historical purchases, provide data to justify the rate.
   iii. **Equipment** – itemized list which includes description of equipment, unit price, quantity, and total price. Any equipment item with a unit price over $5,000 must include a vendor quote.
   iv. **Animal Use Costs** – itemized list of all materials, animal purchases, and per diem costs, associated with proposed animal use; include documentation supporting daily rates.
   v. Travel – provide an itemized list of travel costs to include purpose of trips, departure and arrival destinations, projected airfare, rental car and per GSA approved diem, number of travelers, number of days); provide screenshots from travel website for proposed airfare and rental car, as applicable; provide screenshot or web link for conference registration fee and note if the fee includes hotel cost. Conference attendance must be justified, explain how it is in the best interest of the project. **Plan for two (2) DARPA program review meetings per year.**
   vi. Other Direct Costs (e.g., computer support, clean room fees) – Should be itemized with costs or estimated costs. Backup documentation and/or a supporting cost breakdown is required to support proposed costs with a unit price over $5,000. An explanation of any estimating factors, including

their derivation and application, must be provided. Please include a brief description of the proposers' procurement method to be used.

vii. **Other Direct Costs** – Consultants: provide executed Consultant Agreement that describes work scope, rate and hours.

viii. **Indirect costs** including, as applicable, fringe benefits, overhead, General and Administrative (G&A) expense, and cost of money (see university vs. company specific requirements below).

ix. **Indirect costs specific to a University proposer:** (1) **Fringe Benefit Rate** (provide current Department of Health and Human Services (DHHS) or Office of Naval Research (ONR) negotiated rate package; if calculated by other than a rate, provide University documentation identifying fringe costs by position or HR documentation if unique to each person); (2) **F&A Indirect Overhead Rate** (provide current DHHS or ONR negotiated rate package); (3) **Tuition Remission** (provide current University documentation justifying per student amount); and (4) **Health Insurance/Fee** (provide current University documentation justifying per student amount, if priced separately from fringe benefits with calculations included in the EXCEL cost file).

x. **Indirect costs specific to a Company proposer:** (1) **Fee/Profit** (provide rationale for proposed fee/profit percentage using criteria found in DFARS 215.404-70); and (2) **Fringe Benefit/Labor OH/Material OH/G&A Rates** (provide current Forwarding Pricing Rate Proposal (FPRP) or DCMA/DCAA Forward Pricing Rate Recommendation or Agreement (FPRR or FPRA). If these documents are not available, provide company historical data, preferably two years, minimum of one, to include both pool and expense costs used to generate the rates).

(3) A summary of total program costs by phase and task.

(4) An itemization of Subcontracts. All subcontractor cost proposal documentation must be prepared at the same level of detail as that required of the prime. Subcontractor proposals should include Interdivisional Work Transfer Agreements (IWTA) or evidence of similar arrangements (an IWTA is an agreement between multiple divisions of the same organization). The prime proposer is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). The proposal must show how subcontractor costs are applied to each phase and task. If consultants are to be used, proposer must provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate.

(5) An itemization of any information technology (IT) purchase (including a letter stating why the proposer cannot provide the requested resources from its own funding), as defined in FAR Part 2.101.

(6) A summary of projected funding requirements by month for both phases of the project.

(7) A summary of tasks that have animal or human use funding.

(8) The source, nature, and amount of any industry cost-sharing. Where the effort consists of multiple portions which could reasonably be partitioned for purposes

of funding, these should be identified as options with separate cost estimates for each.

(9) Identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.).

(10) Any Forward Pricing Rate Agreement, DHHS rate agreement, other such approved rate information, or such documentation that may assist in expediting negotiations (if available).

(11) Proposers with a Government acceptable accounting system who are proposing a cost-type contract must submit the DCAA document approving the cost accounting system.

Per FAR 15.403-4, certified cost or pricing data shall be required if the proposer is seeking a procurement contract award per the referenced threshold, unless the proposer requests and is granted an exception from the requirement to submit cost or pricing data. Certified cost or pricing data" are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or Other Transaction.)

Subawardee Proposals

The awardee is responsible for compiling and providing all subawardee proposals for the Procuring Contracting Officer (PCO)/Grants Officer (GO)/Agreements Officer (AO), as applicable. Subawardee proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions which could reasonable be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

All proprietary subawardee proposal documentation, prepared at the same level of detail as that required of the awardee's proposal and which cannot be uploaded with the proposed awardee's proposal, shall be provided to the Government either by the awardee or by the subawardee organization when the proposal is submitted. Subawardee proposals submitted to the Government by the proposed subawardee should be submitted via e-mail to the address in Section I.

Other Transaction Requests

All proposers requesting an OT must include a detailed list of milestones. Each milestone must include the following:

- milestone description,
- completion criteria,
- due date, and
- payment/funding schedule (to include, if cost share is proposed, awardee and Government share amounts).

It is noted that, at a minimum, milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type,

expenditure or fixed-price based, will be subject to negotiation by the Agreements Officer. Do not include proprietary data.

4.2.3. Additional Proposal Information

Proprietary Markings

Proposers are responsible for clearly identifying proprietary information. Submissions containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary" or "Company Proprietary." NOTE: "Confidential" is a classification marking used to control the dissemination of U.S. Government National Security Information as dictated in Executive Order 13526 and should not be used to identify proprietary business information.

Unclassified Submissions

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an *unclassified* email must be sent to the BAA mailbox requesting submission instructions from the Technical Office PSO. If a determination is made that the award instrument may result in access to classified information, a SCG and/or DD Form 254 will be issued by DARPA and attached as part of the award.

Disclosure of Information and Compliance with Safeguarding Covered Defense Information Controls

The following provisions and clause apply to all solicitations and contracts; however, the definition of "controlled technical information" clearly exempts work considered fundamental research and therefore, even though included in the contract, will not apply if the work is fundamental research.

DFARS 252.204-7000, "Disclosure of Information"
DFARS 252.204-7008, "Compliance with Safeguarding Covered Defense Information Controls"
DFARS 252.204-7012, "Safeguarding Covered Defense Information and Cyber Incident Reporting"

The full text of the above solicitation provision and contract clauses can be found at http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.

Compliance with the above requirements includes the mandate for proposers to implement the security requirements specified by National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations" (see https://doi.org/10.6028/NIST.SP.800-171r1) that are in effect at the time the BAA is issued.

For awards where the work is considered fundamental research, the contractor will not have to implement the aforementioned requirements and safeguards. However, should the nature of the work change during performance of the award, work not considered fundamental research will be subject to these requirements.

Human Subjects Research (HSR)/Animal Use

Proposers that anticipate involving human subjects or animals in the proposed research must comply with the approval procedures detailed at http://www.darpa.mil/work-with-us/additional-baa, to include providing the information specified therein as required for proposal submission.

Approved Cost Accounting System Documentation

Proposers that do not have a Cost Accounting Standards (CAS) compliant accounting system considered adequate for determining accurate costs that are negotiating a cost- type procurement contract must complete an SF 1408. For more information on CAS compliance, see http://www.dcaa.mil/cas.html. To facilitate this process, proposers should complete the SF 1408 found at http://www.gsa.gov/portal/forms/download/115778 and submit the completed form with the proposal.

Small Business Subcontracting Plan

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)) and FAR 19.702(a)(1), each proposer who submits a contract proposal and includes subcontractors might be required to submit a subcontracting plan with their proposal. The plan format is outlined in FAR 19.704.

Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2

All electronic and information technology acquired or created through this BAA must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2.

Intellectual Property

All proposers must provide a good faith representation that the proposer either owns or possesses the appropriate licensing rights to all intellectual property that will be utilized under the proposed effort.

For Procurement Contracts

Proposers responding to this BAA requesting procurement contracts will need to complete the certifications at DFARS 252.227-7017. See http://www.darpa.mil/work-with-us/additional-baa for further information. If no restrictions are intended, the proposer should state "none." The table below captures the requested information:

Technical Data Computer Software To be Furnished With Restrictions	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

For All Non-Procurement Contracts

Proposers responding to this BAA requesting a Cooperative Agreement or Other Transaction for Prototypes shall follow the applicable rules and regulations governing these various award instruments, but, in all cases, should appropriately identify any potential restrictions on the

Government's use of any Intellectual Property contemplated under the award instrument in question. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged to use a format similar to that described in the section above. If no restrictions are intended, then the proposer should state "NONE."

System for Award Management (SAM) and Universal Identifier Requirements

All proposers must be registered in SAM unless exempt per FAR 4.1102. FAR 52.204-7, "System for Award Management" and FAR 52.204-13, "System for Award Management Maintenance" are incorporated into this BAA. See http://www.darpa.mil/work-with-us/additional-baa for further information.

International entities can register in SAM by following the instructions in this link: https://www.fsd.gov/fsd-gov/answer.do?sysparm_kbid=dbf8053adb119344d71272131f961946&sysparm_search=KB0013221.

4.2.4. Submission Information

DARPA will acknowledge receipt of all submissions and assign an identifying control number that should be used in all further correspondence regarding the submission. DARPA intends to use electronic mail correspondence regarding HR001119S0092. Submissions may not be submitted by fax or e-mail; any so sent will be disregarded.

Submissions will not be returned. An electronic copy of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided the formal request is received by DARPA within five (5) business days after notification that a proposal was not selected.

For abstract and proposal submission dates, see Part I., Overview Information. Submissions received after these dates and times may not be reviewed.

Abstracts and Full Proposals sent in response to HR001119S0092 may be submitted via DARPA's BAA Website (https://baa.darpa.mil). Visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters may then create an account for the DARPA BAA website (via the "Register your Organization" link along the left side of the homepage), view submission instructions, and upload/finalize the abstract. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that submission process be started as early as possible.

All unclassified concepts submitted electronically through DARPA's BAA Website must be uploaded as zip files (.zip or .zipx extension). The final zip file should be no greater than 50 MB in size. Only one zip file will be accepted per submission. Classified submissions and proposals requesting or cooperative agreements should NOT be submitted through DARPA's BAA Website (https://baa.darpa.mil), though proposers will likely still need to visit

https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

Technical support for BAA Website may be reached at BAAT_Support@darpa.mil, and is typically available during regular business hours, (9:00 AM- 5:00 PM EST Monday – Friday).

Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; it is highly advised that submission process is started as early as possible.

For Cooperative Agreements only:

Proposers requesting cooperative agreements must submit proposals through one of the following methods: (1) electronic upload per the instructions at https://www.grants.gov/applicants/apply-for-grants.html; or (2) hard-copy mailed directly to DARPA. If proposers intend to use Grants.gov as their means of submission, then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to Grants.gov and in part as a hard-copy. Proposers using Grants.gov do not submit hard-copy proposals in addition to the Grants.gov electronic submission.

Submissions: Proposers must submit the three forms listed below.

> SF 424 Research and Related (R&R) Application for Federal Assistance, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. *This form must be completed and submitted.*
>
> To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. A§ 1681 Et. Seq.), the Department of Defense is using the two forms below to collect certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering, or mathematics disciplines. Detailed instructions for each form are available on Grants.gov.
>
> Research and Related Senior/Key Person Profile (Expanded), available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf. *This form must be completed and submitted.*
>
> Research and Related Personal Data, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_PersonalData_1_2-V1.2.pdf. *Each applicant must complete the name field of this form, however, provision of the demographic information is voluntary. Regardless of whether the demographic fields are completed or not, this form must be submitted with at least the applicant's name completed.*

Grants.gov Submissions: Grants.gov requires proposers to complete a one-time registration process before a proposal can be electronically submitted. First-time registration can take

between three (3) business days and four weeks. For more information about registering for Grants.gov, see http://www.darpa.mil/work-with-us/additional-baa.

Proposal abstracts will not be accepted if submitted via Grants.gov.

Hard-copy Submissions: Proposers electing to submit cooperative agreement proposals as hard copies must complete the SF 424 R&R form (Application for Federal Assistance,) available on the Grants.gov website (https://apply07.grants.gov/apply/forms/sample/SF424_2_1-V2.1.pdf).

Failure to comply with the submission procedures may result in the submission not being evaluated. DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

4.3. FUNDING RESTRICTIONS

Preaward costs will not be reimbursed unless a preaward cost agreement is negotiated prior to award.

4.4. OTHER SUBMISSION INFORMATION

DARPA will post a consolidated Frequently Asked Questions (FAQ) document. To access the posting go to: http://www.darpa.mil/work-with-us/opportunities. A link to the FAQ will appear under the HR001119S0092 summary. Submit your question(s) via e-mail to FocusedPharma@darpa.mil.

5. Application Review Information

5.1. EVALUATION CRITERIA

Proposals will be evaluated using the following criteria, listed in descending order of importance: 5.1.1 Overall Scientific and Technical Merit; 5.1.2 Potential Contribution and Relevance to the DARPA Mission; and 5.1.3 Cost Realism.

5.1.1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete.
Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible. The timeline for achieving major milestones is aggressive, but rationally supported with a clear description of the requirements and risks. The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule.

5.1.2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort are relevant to the national technology base. Specifically, DARPA's mission is to make pivotal early technology investments that create or prevent strategic surprise for U.S. National Security.

5.1.3. Cost Realism

The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates).

It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. DARPA recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies.

5.2. REVIEW OF PROPOSALS

Review Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations based on the evaluation criteria listed in Section V.A and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

DARPA will conduct a scientific/technical review of each conforming proposal. Conforming proposals comply with all requirements detailed in this BAA; proposals that fail to do so may be deemed non-conforming and may be removed from consideration. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA’s intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the BAA herein, and availability of funding.

Handling of Source Selection Information

DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104) and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

Federal Awardee Performance and Integrity Information (FAPIIS)

Per 41 U.S.C. § 2313, as implemented by FAR 9.103 and 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, DARPA is required to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees have the opportunity to comment on any information about themselves entered in the database, and DARPA will consider any comments, along with other information in FAPIIS or other systems prior to making an award.

6. Award Administration Information

6.1. SELECTION NOTICES

6.1.1. Proposal Abstracts

DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Regardless of DARPA's response to an abstract, proposers may submit a full proposal. DARPA will review all conforming full proposals using the published evaluation criteria and without regard to any comments resulting from the review of an abstract.

6.1.2. Full Proposals

As soon as the evaluation of a proposal is complete, the proposer will be notified that (1) the proposal has been selected for funding pending award negotiations, in whole or in part, or (2) the proposal has not been selected. These official notifications will be sent via e-mail to the Technical POC and Administrative POC identified on the proposal coversheet.

6.2. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

6.2.1. Meeting and Travel Requirements

There will be a program kickoff meeting in the Arlington, VA vicinity and all key participants are required to attend. Proposers should also anticipate regular program-wide PI meetings and periodic site visits at the Program Manager's discretion to the Arlington, VA vicinity. Proposers shall include within the content of their proposal details and costs of any travel or meetings they deem to be necessary throughout the course of the effort, to include periodic status reviews by the government.

6.2.1. FAR and DFARS Clauses

Solicitation clauses in the FAR and DFARS relevant to procurement contracts and FAR and DFARS clauses that may be included in any resultant procurement contracts are incorporated herein and can be found at http://www.darpa.mil/work-with-us/additional-baa.

6.2.2. Controlled Unclassified Information (CUI) on Non-DoD Information Systems

Further information on Controlled Unclassified Information on Non-DoD Information Systems is incorporated herein can be found at http://www.darpa.mil/work-with-us/additional-baa.

6.2.3. Representations and Certifications

In accordance with FAR 4.1102 and 4.1201, proposers requesting a procurement contract must complete electronic annual representations and certifications at https://www.sam.gov/. In addition, resultant procurement contracts will require supplementary DARPA-specific representations and certifications. See http://www.darpa.mil/work-with-us/additional-baa for further information.

6.2.4. Terms and Conditions

For terms and conditions specific to grants and/or cooperative agreements, see the DoD General Research Terms and Conditions (latest version) at http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions and the supplemental DARPA-specific terms and conditions at http://www.darpa.mil/work-with-us/contract-management#GrantsCooperativeAgreements.

6.3. REPORTING

The number and types of reports will be specified in the award document, but will include as a minimum monthly financial status reports, 6-week technical status reports, and quarterly technical status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

6.4. ELECTRONIC SYSTEMS

6.4.1. Wide Area Work Flow (WAWF)

Performers will be required to submit invoices for payment directly to https://wawf.eb.mil, unless an exception applies. Performers must register in WAWF prior to any award under this BAA.

6.4.2. i-EDISON

The award document for each proposal selected for funding will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (http://public.era.nih.gov/iedison).

7. Agency Contacts

Administrative, technical or contractual questions should be sent via e-mail to the mailbox listed below.

Points of Contact
The BAA Coordinator for this effort may be reached at:
FocusedPharma@darpa.mil
DARPA/BTO
ATTN: HR001119S0092
675 North Randolph Street
Arlington, VA 22203-2114

For information concerning agency level protests see http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.

8. Other Information

DARPA will host a Proposers Day in support of the Focused Pharma program on October 1, 2019 the Association of the United States Army (AUSA; 2425 Wilson Blvd., Arlington, VA 22201) The purpose is to provide potential proposers with information on the Focused Pharma program, promote additional discussion on this topic, and address questions.

Interested proposers are not required to attend to respond to the Focused Pharma BAA, and relevant information and materials discussed at Proposers Day will be made available to all potential proposers in the form of a FAQ posted on the DARPA Opportunities Page.

DARPA will not provide cost reimbursement for interested proposers in attendance. An online registration form and various other meeting details can be found at the registration website, http://events.sa-meetings.com/FocusedPharmaProposersDay.

Participants are required to register no later than Tuesday, September 24, 2019 at 12:00 PM ET. This event is not open to the Press. The Proposers Day will be open to members of the public who have registered in advance for the event; there will be no onsite registration.

All foreign nationals, including permanent residents, must complete and submit a DARPA Form 60 “Foreign National Visit Request,” which will be provided in the registration confirmation email.

Proposers Day Point of Contact:
DARPA-SN-19-78@darpa.mil
ATTN: DARPA-SN-19-78
675 North Randolph Street
Arlington, VA 22203-2114

9. APPENDIX 1 – Volume II checklist

Volume II, Cost Proposal
Checklist and Sample Templates

The following checklist and sample templates are provided to assist the proposer in developing a complete and responsive cost volume. Full instructions appear in Section 4.2.2 beginning on Page 20 of HR001119S0092. This worksheet must be included with the coversheet of the Cost Proposal.

1. Are all items from Section 4.2.2 (Volume II, Cost Proposal) of **HR001119S0092** included on your Cost Proposal cover sheet?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]
   If reply is "No", please explain:

2. Does your Cost Proposal include (1) a summary cost buildup by Phase, (2) a summary cost buildup by Year, and (3) a detailed cost buildup of for each Phase that breaks out each task and shows the cost per month?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

3. Does your cost proposal (detailed cost buildup #3 above in item 2) show a breakdown of the major cost items listed below:
   Direct Labor (Labor Categories, Hours, Rates)
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Indirect Costs/Rates (i.e., overhead charges, fringe benefits, G&A)
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Materials and/or Equipment
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Subcontracts/Consultants
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Other Direct Costs
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   Travel
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

4. Have you provided documentation for proposed costs related to travel, to include purpose of trips, departure and arrival destinations and sample airfare?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

5. Does your cost proposal include a complete itemized list of all material and equipment items to be purchased (a priced bill-of-materials (BOM))?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

6. Does your cost proposal include vendor quotes or written engineering estimates (basis of estimate) for all material and equipment with a unit price exceeding $5000?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

7. Does your cost proposal include a clear justification for the cost of labor (written labor basis-of-estimate (BOE)) providing rationale for the labor categories and hours proposed for each task?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

8. Do you have subcontractors/consultants? If YES, continue to question 9. If NO, skip to question 13.
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

9. Does your cost proposal include copies of all subcontractor/consultant technical (to include Statement of Work) and cost proposals?
   ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

   If reply is "No", please explain:

10. Do all subcontract proposals include the required summary buildup, detailed cost buildup, and supporting documentation (SOW, Bill-of-Materials, Basis-of-Estimate, Vendor Quotes, etc.)?
    ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

    If reply is "No", please explain:

11. Does your cost proposal include copies of consultant agreements, if available?
    ○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

    If reply is "No", please explain:

12. If requesting a FAR-based contract, does your cost proposal include a tech/cost analysis for all proposed subcontractors?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

13. Have all team members (prime and subcontractors) who are considered a Federally Funded Research & Development Center (FFRDC), included documentation that clearly demonstrates work is not otherwise available from the private sector AND provided a letter on letterhead from the sponsoring organization citing the specific authority establishing their eligibility to propose to government solicitations and compete with industry, and compliance with the associated FFRDC sponsor agreement and terms and conditions.

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

14. Does your proposal include a response regarding Organizational Conflicts of Interest?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain:

15. Does your proposal include a completed Data Rights Assertions table/certification?

○ **YES** ○ **NO** **Appears on Page(s)** [Type text]

If reply is "No", please explain: