UNITED STATES ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES (ARI)

BROAD AGENCY ANNOUNCEMENT

FOR

BASIC, APPLIED, AND ADVANCED SCIENTIFIC RESEARCH



W911NF-23-S-0010-0003
01 May 2023 – 30 April 2028

ISSUED BY:
U.S. Army Contracting Command-Aberdeen Proving Ground
Research Triangle Park Division
P. O. BOX 12211
Research Triangle Park, NC 27709-2211

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I. OVERVIEW OF THE FUNDING OPPORTUNITY

A. Required Overview Content

Agency Name:

U.S. Army Research Institute for the Behavioral and Social Sciences (ARI)

Issuing Acquisition Office:

U.S. Army Contracting Command-Aberdeen Proving Ground, Research Triangle Park (ACC-APG-RTP) Division

Research Opportunity Title:

U.S. Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic, Applied, and Advanced Research (Fiscal Years 2023-2028)

Announcement Type:

Initial Announcement

Research Opportunity Number:

W911NF-23-S-0010

Catalog of Federal Domestic Assistance (CFDA) Number and Title:

12.630 – Basic, Applied, and Advanced Research in Science and Engineering

Response Dates (Submissions):

This BAA is a continuously open five-year announcement valid throughout the period beginning **01 May 2023 and ending 30 April 2028**. New start awards are normally obligated early within each fiscal year Amendments to this BAA will be posted to SAM.gov and is now known as Contract Opportunities and will also be posted to http://www.Grants.gov when they occur. Interested parties are encouraged to periodically check these websites for updates and amendments.

(End of Section)

B. Additional Overview Information

INTRODUCTION:

This Broad Agency Announcement (BAA), which sets forth research areas of interest to the United States Army Research Institute for the Behavioral and Social Sciences (ARI), is issued under the provisions of paragraph 6.102(d)(2) and 35.016 of the Federal Acquisition Regulation (FAR), which provides for the acquisition of basic and applied research and that part of development not related to the development of a specific system or hardware procurement through the competitive selection of proposals, and 10 U.S.C. 4001, 10 U.S.C. 4021, and 10 U.S.C. 4022, which provide the authorities for issuing awards under this announcement for basic and applied research. This BAA also supports efforts in accordance with the Department of Defense Grant and Agreement Regulations (DoDGARS) at 32 CRF 22.315(a). Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provisions of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments.

ARI is the Army's lead agency for the conduct of research, development, and analyses for Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, and Soldier and leader development issues. Programs funded under this BAA include basic research, applied research, and advanced technology development that can improve human performance and Army readiness.

Funding of research and development (R&D) within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle. Those contemplating submission of a proposal are encouraged to contact the ARI Technical Point of Contact (TPOC) identified in Section G of this BAA or the responsible ARI Manager noted at the end of the technical area entry (Part II Section A of this BAA) to determine whether the proposed R&D warrants further inquiry. If the proposed R&D warrants further inquiry and funding is available, submission of a white paper or proposal will be entertained. The recommended three-step sequence is (1) initial contact with the ARI TPOC or responsible ARI Manager, (2) white paper submission, (3) proposal submission.

This sequence allows earliest determination of the potential for funding and minimizes the labor and cost associated with submission of proposals that have minimal probability of being selected for funding. Costs associated with white paper or proposal submissions in response to this BAA are not considered allowable direct charges to any resulting award. These costs may be allowable expenses to normal bid and proposal indirect costs specified in FAR 31.205-18. Applicants submitting proposals are cautioned that only a Government Contracting or Grants Officer may obligate the Government to any agreement involving expenditure of Government funds.

To be eligible for an award under this announcement, a prospective awardee must meet certain minimum standards pertaining to financial resources and responsibility, ability to comply with the performance schedule, past performance, integrity, experience, technical capabilities, operational controls, and facilities. In accordance with Federal statutes, regulations, and

Department of Defense (DoD) and Army policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the Army.

(End of Section)

II. DETAILED INFORMATION ABOUT THE FUNDING OPPORTUNITY

A. PROGRAM DESCRIPTION

1. Basic Research Areas of Interest

Basic Research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts that drive theory forward without being restricted to ideas that have known applications or products. Basic research may lay the foundation for future research aimed at developing tools, but that is not its goal. ARI's Basic Research Program maintains close contact with ARI's applied scientists and other relevant agencies within the Army to facilitate the transition of basic research to applied Army efforts. The Basic Research Program seeks to support and execute high-risk, high-reward fundamental research to develop state-of-the-art theory, methods, and models to create the innovative concepts required to support the Army's future capabilities and needs. Basic Research seeks to support efforts in the following focal areas:

- **Science of Measurement of Individuals & Collectives**: Maintaining readiness requires that the Army be comprised of high-quality personnel who are optimally distributed throughout the force. Accurate, efficient, predictive, and informative measurement of individuals and collectives is the means to meeting this charge. The program goals of this focal area are to develop new (a) means to concurrently measure more than one factor with a single testing behavior without sacrificing precision; (b) approaches to capture and analyze continuous behavioral processes unfolding within and between fluid social situations; (c) models and methods for combining information from diverse and potentially archival sources to better understand the nature and antecedents of performance; and (d) construct validation models and methods consistent with the nature and antecedents of performance. Topics of interest include, but are not limited to, psychometrics for modeling dynamic data, measurement theory for dynamic constructs, context-sensitive measures of adaptability and flexibility, and embedded assessments of individual and group attributes.

- **Understanding Multilevel and Organizational Dynamics**: The Army organization is a complex, often fluid structure based on both formal and informal work roles and social hierarchies. It is critical to better understand the multilevel and cross-level influences at the individual, small unit, and organizational level, and how these influences relate to organizational effectiveness. The program goals of this focal area are to (a) develop new theories that capture the multilevel and multifactored nature of organizations and the mechanisms underlying their coordination and restructuring processes, and (b) identify and define top-down and bottom-up factors, and their interactions, that influence organizational effectiveness. Topics of interest include, but are not limited to, non-linear models for assessing team processes, process-oriented models of individual and group dynamics, modeling dynamic organizational restructuring, and models of complex multi-layered organizations.

- **Context of Behavior in Military Environments**: The Army must thrive in various and unpredictable situations. There are known gaps in current theory to address how

contextual factors, including leadership behaviors, combine to impact individual and group behavior. The program goals of this focal area are to develop new (a) models or refine existing models that capture critical environmental characteristics that influence human behavior, and (b) theories understanding effective leadership and developing effective leaders efficiently; developing new measures that advance the current understanding of leadership and leader behaviors. Topics of interest include, but are not limited to, developing leadership theory for complex organizations, identifying external factors that impact social and decision-making processes, understanding multilevel contextual effects on organizational behavior, and models for strategically activating organizationally relevant identities.

- **Formal and Informal Learning and Development**: The Army not only trains personnel for specific jobs, tasks, and roles, but also develops Soldiers across their careers. Thus, it is important to understand how to maximize opportunities for learning throughout that timespan. The program goals of this focal area are to develop (a) longitudinal theories of adult learning within a variety of environments from a multidisciplinary perspective; (b) innovative methods for maximizing collective learning; and (c) measurement techniques that allow for objective and/or automatic assessment of learning processes. Topics of interest include, but are not limited to, understanding the role of narratives in learning, individual and collective mental models of learning experiences, non-linear models of learning and development, and models of development across the career span.

For additional information on these domains, and potential areas of interest, Applicants may also consult the following reports by the National Research Council of the National Academy of Science (available from the National Academies Press http://www.nap.edu):

- "Measuring Human Capabilities: An Agenda for Basic Research on the Assessment of Individual and Group Performance Potential for Military Accession" (2015) supervised by the Board on Behavioral, Cognitive, and Sensory Sciences

- "The Context of Military Environments: Social and Organizational Factors" (2014) supervised by the Board on Behavioral, Cognitive, and Sensory Sciences "Sociocultural Data to Accomplish Department of Defense Missions: Toward a Unified Social Framework: Workshop Summary" (2011) supervised by the Board on Human-System Integration

The ARI Manager is Dr. Alexander Wind, (703) 851-9372, Alexander.P.Wind.civ@army.mil

2. Applied Research and Advanced Technology Development Areas of Interest

ARI seeks Applied Research proposals that provide a systematic expansion and application of knowledge to design and develop useful strategies, techniques, methods, tests, or measures that provide the means to meet a recognized and specific Army need. Applied Research precedes specific technology investigations or development and should have high potential to transition into advanced technology.

The ARI Advanced Technology Development program includes the development of

technologies, components, or prototypes that can be tested in field experiments and/or simulated environments. Projects in this category have a direct relevance to identified military needs. These projects should demonstrate the general military utility or cost reduction potential of technology in the areas of personnel selection, assignment, and retention; advanced data analytics and models applied to talent management; development of higher-order competencies for Soldiers and Leaders; holistic assessment of unit readiness; and team and unit mission effectiveness. These projects should be focused on a more direct operational benefit and, if successful, the technology should be available for transition.

Topic areas of the applied research and advanced technology development include the following:

a. Holistic Personnel Assessment and Statistical Innovations for Talent Management

i. Improving Talent Management through Advanced Analytics

"Big Data" can be characterized by large sample sizes and high dimensionality, sparsity, noisy and irregular measurements, complex interdependencies (including social and temporal), and heterogeneity (e.g., of data types and structures). Legal or ethical considerations also may place restrictions on how data and models should be used (e.g., creating new forms of assessment that result in adverse impact). Finally, the utility of data and models for making decisions depends on getting the right kind of information to the right people at the right time. Leaders and Soldiers need information that is understandable, reliable, valid, and timely. Given these challenges, research is necessary to develop new ways of generating, analyzing, and using data for the purpose of talent management.

Topic areas of research interest include the following:

- New statistical and computational methods for assessing individuals and groups. Examples include new approaches to generate, deploy, and score assessments; statistical innovations in addressing faking and response distortion; predictive models to improve talent management; new methods for augmenting assessments with non-traditional data; and methods to reduce response burden.
- New methods to support timely, valid, and efficient data-based personnel management and leader decision-making. Examples include innovations in job analysis/competency modeling and statistical/computational methods to optimally assign individuals to specialties and units.
- New metrics and models for group and individual effectiveness in organizations. Examples include network effects associated with individual training and performance, as well as metrics to more accurately integrate the value, costs, and likelihood of relevant performance behaviors across contexts and careers.
- Novel or non-traditional data sources for behavioral/social science research in military contexts. Examples include archival, physiological, relational, sensor, and qualitative data -- especially data related to Soldier performance, staffing and personnel decisions, leadership development, attitude assessment, and group/organizational behavior.
- Other applications of Big Data analytics, predictive modeling, or new computational methods to address talent management and personnel management. Examples include testing and assessment, counter-productive work behaviors, recruitment, retention, career

development, promotions, improving person-job fit, enhancing readiness and resilience, and decision-support systems for leaders.

The ARI Managers are Dr. Andrew Slaughter, (703) 545-2353, andrew.j.slaughter.civ@army.mil, and Dr. Garett Howardson, (703) 545-2429, garett.n.howardson.civ@army.mil.

ii. Holistic Personnel Assessment

The ARI personnel assessment program includes research to advance the science underlying talent management. The overarching objective is to devise means to attract, select, assign, promote, and retain enlisted and officer personnel, both Active and Reserve, whose abilities and interests will fit the Army's current and future organizational and job requirements. Our approach to enlisted and officer job performance reflects a "whole person", compensatory perspective, incorporating both the ability to perform and the motivation to perform. Our selection and assignment research must incorporate both elements in a holistic fashion. Areas of research include theory, methods, techniques, and tools to:

- Enhance the measurement of individual differences, both cognitive and non-cognitive, for personnel assessment using both classical and innovative measurement approaches;
- Refine and expand the measurement and evaluation of job performance to include innovative approaches and analysis techniques for job analysis and holistic job performance assessment;
- Enhance personnel management, e.g., selection, assignment, promotion, from application to the Army until separation using innovative methods, tools, and techniques;
- Evaluate and validate personnel assessments across the Soldier lifecycle to include evaluating the impact of new and proposed personnel policies on personnel management and performance; and
- Improve personnel management through application and enhancement of longitudinal data and analysis.

The ARI Manager is Dr. Alok Bhupatkar, 703-712-3038, alok.a.bhupatkar.civ@army.mil.

b. Leader Competences for Complexity & Uncertainty

As the Army prepares to execute the potential range of future military operations, it must continue to develop a bench of officers and non-commissioned officers (NCOs) who possess the competencies to perform well across a variety of conventional and emerging contexts. Developing such competencies requires time and experience over a career, innate ability, and deliberate leader development and training interventions. Leaders at all levels in the Army—including junior and senior NCOs, cadets, and junior and senior officers—must develop the critical cognitive skills that underlie tactical and technical expertise. Leaders also must possess refined interpersonal and communication skills to mentor subordinates, build teams comprised of diverse individuals, effectively cooperate with interagency and coalition partners, and appropriately influence a variety of individuals and groups (e.g., the media, local populations). Innovations in leader development and training require understanding of the competencies required for effective performance in future operational contexts, as well as an understanding of how ability and experience help or hinder competency progression. This area of research

addresses methods and techniques to identify, train, develop, and assess higher-order competencies and requisite skills for successful leader performance within the Army.

i. Complex cognitive competencies for organizational and strategic leaders
The Army invests significant time and effort to develop leaders over their careers. Army leaders are given immensely complex and dynamic missions that can have serious implications at both local and global levels. The development of complex cognitive competencies in Army leaders is essential for a successful and an effective organization. Unless these complex cognitive competencies are continuously developed in Army leaders, they may lose the ability to anticipate change. When organizational and strategic leaders are continually developing their complex cognitive skills, they gain the power to explore all options rather than just react with last minute changes to existing plans with respect to what may have become an outdated concept of the operational and strategic environment. There is need for scientific innovative research that will enhance the Army's capability in assessment of complex cognitive skills in its leaders and in the creation of improved methods to accelerate the development of such skills at opportune times during their career lifecycle.

Topic areas of research interest include the following:

- How to better develop, identify, and assess individuals with the capacity for strategic leadership and higher-order cognitive competencies (e.g., systems thinking, innovative thinking, thinking-in-time, action learning, comprehensive information gathering, critical thinking).
- Identification of the competencies, knowledge, skills, and abilities that must be developed over a career to build officers' capacity for strategic thinking and leadership; identification of how the competencies develop over time and across a career.
- Methods to assess, develop, and accelerate acquisition of cognitive competencies at different phases in an officer's career. Cognitive competencies of interest include, but are not limited to, strategic thinking, systems thinking, creativity and innovation, thinking-in-time, related complex cognitive skills.
- On-the-job approaches to building cognitive competencies and expertise. Examples include examining the value of broadening opportunities to develop strategic leadership skills, and methods to improve how leaders use mentoring to build strategic thinking in others.
- Methods to develop the competencies, knowledge, and skills to improve a leader's ability to perform well in a variety of operational and mission contexts (e.g., visualizing the operational environment).

The ARI Manager is Dr. Rhett Graves, (913) 684-9758, thomas.r.graves5.civ@army.mil

ii. Multifaceted development pathways for organizational and strategic leaders
Deterring adversaries and winning the nation's wars are accomplished through the coordinated actions of cohesive and effective organizations working toward the same purpose. The leader's role in shaping and directing these organizations is significant. Moreover, as leaders advance in their careers, the organizations they lead grow in

complexity. Army leaders advance from the direct level of leadership to leading organizations to leading the Army enterprise. At each stage, leaders are expected to continue learning and developing themselves, as well as developing the subordinates and organizations they lead. To be effective across different performance environments and across a career, leaders must therefore develop and improve a wide range of knowledge, skills, and abilities—both within themselves and within others. Army leaders have a diversity of backgrounds, interests, talents, etc., that result in the development of competencies that are individualized to particular developmental paths. A better understanding is required of individual, multifaceted, and asynchronous patterns of competency development.

Topic areas of research interest include the following:

- Research is needed to identify how leaders grow over time and over unique developmental paths, as well as how leaders develop and mentor their subordinates.
- Development of innovative measures and models of leadership performance; leader competencies, knowledge, skills, abilities, and other attributes; and leader growth. This includes developing and validating methods to assess competency baselines and progression throughout Professional Military Education.
- Methods for identifying, measuring, and developing operational leadership competencies for obtaining advantage in future operational environments, characterized by contextual features such as battlefield transparency, near-peer adversaries, autonomous systems, human-machine teaming, integrated domains.
- Methods for leader development in contexts extending beyond formal education and training venues.
- Measures and methods to improve the rate of competency development and leader capability to develop his or her subordinates. This includes leader development interventions to improve knowledge and skills related to mentorship, methods to aid leaders in identifying subordinates' developmental needs, and methods to improve performance counselling and feedback.
- Methods to enable leaders to influence and improve the organizations they lead. This includes methods to develop leader skills and competencies related to promoting organizational effectiveness, as well as techniques or job aids to help leaders promote organizational performance (e.g., methods to support the diffusion of innovation, methods to set conditions for a learning environment).

The ARI Manager is Dr. Rhett Graves, (913) 684-9758, thomas.r.graves5.civ@army.mil

iii. Assessing and Developing Junior Officer Competencies

Research is needed to specifically develop valid measures and targeted interventions that are designed to provide developmental feedback on critical leader competencies for Junior Officers. The Leader Requirements Model (LRM) and the Army Talent Attribute Framework (ATAF) provide foundational and critical attributes and competencies relevant for this leader echelon. Building on this foundation, research will further explore the anatomy of the targeted competencies and the contexts in which they are used, ultimately allowing for the design of diagnostic and developmental tools specific to more granular subcompetencies. By focusing on the requisite knowledge, skills, abilities (KSAO) necessary for subcompetency proficiency,

research findings will provide the Army with novel developmental methods as well as a more refined ability to predict performance. Additionally, research also is needed to provide instructional and institutional guidance, helping trainers/educators to better instill these leader competencies to maximize transfer of training to current and future operational environments.

Topic areas of research interest include the following:

- Development of innovative assessment tools to diagnose Junior Officer leader competency gaps and provide actionable guidance for leader development.
- Development of a stage progression model for Junior Officer competency development accounting for configural profiles of subcompetency and KSAOs expertise and how those profiles interact with elements of contextual demands.
- Methods to accelerate the development of leader competencies with novel training interventions yielding improved performance at earlier stages of Officers' careers.
- Prototype interventions promoting the transition from one stage of competency development to the next.
- Methods to predict specific aspects of individuals' leader performance in a range of missions/situations enabling more refined talent management decisions.
- Development of enhanced and validated instructional guidance ultimately producing more ready and lethal Junior Officers.

The ARI Manager is Dr. Randy Brou, Office: 706-545-2550; randy.j.brou.civ@army.mil

iv. Assessing and Developing Junior Leader Competencies for Multi-domain Operations

Sustained competition and conflict in the future operational environment (FOE) will impose novel performance requirements on Army Leaders. Emerging operational demands and requirements for multidomain operations will require Leaders to augment existing competencies and to develop new ones. Research is needed to identify critical competencies supporting Leader performance in the FOE and develop assessment and formative feedback tools to enhance competency development. Specifically, research is needed to enhance Leaders': (a) perceptual and cognitive competencies for ambiguous contexts (e.g., degraded information environments, spatial cognition, social cognition), (b) adaptive competencies for rapidly evolving technological contexts (e.g., technological fluency, expert communication, expert problem-solving, career transitions to technical fields), and (c) self-regulation competencies for effective performance in demanding environments (e.g., hot cognition, vigilance, cognitive flexibility).

Additionally, research is needed to understand better the systematic nature of ecological and transactional aspects of competency development, taking place between the Soldier/Leader and their context, as they and the Army more broadly recognize, make sense of, respond to, and adapt to perceived contextual demands. The Army requires novel ways of thinking about, measuring, and enhancing competencies that incorporate, explore, develop, and refine ecological, transactional, and contextually focused perspectives, emphasizing perceptual, cognitive, affective, performative, and experiential facets of competency development.

Topic areas of research interest include the following:

- Methods to identify critical competencies for Leaders to perform effectively in current and future operational environments, particularly with respect to MDO.
- Development of innovative and valid assessment techniques and tools for measuring Leader competencies for the FOE.
- Methods to determine the cognitive, affective, sociocultural, and/or other factors needed to be integrated into training and formative feedback interventions to enhance competencies for FOE conditions (e.g., simulated realistic training contexts).
- Development of validated formative feedback tools that support and enhance critical competencies early and throughout Leaders' career lifecycle.
- Techniques to conceptualize and operationalize ecological and/or transactional models of competency development, accounting for the role of context in perceptual, cognitive, affective, performative, experiential, or other facets of competency development.

The ARI Manager is Dr. Randy Brou, Office: 706-545-2550; Work cell: 706-575-8264, randy.j.brou.civ@army.mil

v. Developing Noncommissioned Officers for the Future Force

Known as the "Backbone of the Army," noncommissioned officers (NCO) conduct the daily operations of the Army and are charged with the care, training, education, and readiness of every Soldier. For those reasons, NCOs' ability to coach, train and mentor competent Soldiers of character is key to the readiness and success of the force. As NCOs transition from direct, first line leadership (e.g., team leaders, squad leaders, and other equivalent duty positions) to operational and strategic leadership positions, they must progressively build upon the enduring leader competencies and knowledge, skills, abilities and other attributes (KSAO) that are required of all NCOs. They must also develop challenging new competencies and KSAOs that were not required of them as first line leaders. Although the Army has made great strides in providing NCOs with rich and impactful professional development opportunities within the institutional training domain, further research needs to be conducted within the operational and self-development domains. One important focus of the research is to understand how NCOs can build, practice, and accelerate their leadership competencies outside of the Army schoolhouse settings. This research will provide science-based developmental methods and assessments that 1) address the leader competencies and KSAOs for which NCOs need additional training and development *before* being assigned to duty positions that require them, 2) are aligned with Army doctrine and existing leader development training, and 3) can be used by NCOs in any learning domain.

Topic areas of research interest include the following:

- Identification of emerging challenges that NCOs will face when leading, training, and taking care of their units and Soldiers over the next decade, and identification of the KSAOs they will need to meet those challenges.

- Identification of leader competencies and KSAOs for which NCOs need additional training and development and the best methods to develop those competencies and KSAOs.
- Development and validation of developmental methods and assessments to accelerate and build upon the essential competencies and KSAOs that are required of NCOs across the entirety of their lifecycle (e.g., leader identity, effective communication, task prioritization, risk assessment and management).
- Development and validation of developmental methods and assessments to accelerate and build upon essential leader competencies and KSAOs that are uniquely required of senior NCO ranks and/or particular senior enlisted organizational and strategic leadership positions.
- Methods and models that identify, describe, and anticipate how NCO competency and KSAO requirements change over the course of an enlisted leader's career.

The ARI Manager is Dr. Brian Crabb (254) 383-1132, brian.t.crabb.civ@army.mil.

c. Team Assignment & Performance

i. Multi-Layered Hierarchical Units

Multi-Domain Operations (MDO) require a dynamic mix of U.S. Army forward presence, expeditionary forces, and partner forces to deter and defeat the enemy. Future Army units are projected to operate as disaggregated, highly mobile, self-contained forces that will operate for extended periods in complex environments without fixed basing. Small units drawing from diverse personnel across a variety of units will be required to rapidly and organically aggregate to achieve particular missions, and then disaggregate back into their previous state post-mission. These teaming arrangements are an adaptive response to the complexity of the problems encountered in the current global environment. Teams are complex dynamic systems that exist across different environments, develop over time, and evolve and adapt as situational demands unfold. Research efforts are needed to develop tools and techniques for teams to be able to organically aggregate and disaggregate as the mission and operational environment demand, understand how myriad individual characteristics combine to create highly effective teams, and determine the contextual factors that impact the success of nested, hierarchical units.

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Topic areas of research interest include the following:

- Tools and techniques to support the rapid, organic aggregation and disaggregation of small units within multi-team systems in response to task and environmental demands.
- Statistical and measurement methods to understand team and multi-team process and performance dynamics in field settings.
- Understanding of attributes and emergent states of teams related to robustness and a team's ability to continue to perform well under duress for extended time periods.
- Understanding the role of trust, cohesion, and other emergent states that influence performance and effectiveness in multi-team systems; including the establishment and dynamics of these states in multi-team systems.

- Understanding of how leaders, climate, culture, and other aspects of teams interact across different echelons and team compositions.
- Application or revision of concepts such as commander's intent, command intent, and unity of effort to train and support collaboration and decision-making by collocated and distributed teams.

  The ARI Manager is Dr. Stefanie P. Shaughnessy, (571) 585-1790, stefanie.p.shaughnessy.civ@army.mil

ii. Team Staffing and Composition

As the Army shifts to the Multi-Domain Operations (MDO) paradigm, there will be an increased emphasis on ensuring effectiveness of Soldiers and small units, with a recent emphasis by Army Senior Leaders on small teams (squads, platoons, and companies) as the foundation of readiness. In order to maintain maximal effectiveness of the force in this paradigm, the Army will need to efficiently assign and utilize personnel throughout the formation. This concept is often articulated as "Right Soldier, Right Job, Right Time." To achieve this vision, the Army requires the capability to shift to the assignment paradigm from focusing solely on individual jobs to also accounting for the specific organization, unit, and/or team context in which that job is performed. The Army requires the tools, methods, and frameworks for optimally assigning individuals to teams and small units to ensure the operational effectiveness of these units in future conflicts. Moreover, the Army would benefit from new assessment systems to collect sufficiently deep and appropriate information on the individual attributes and capabilities of Soldiers to support a team-based assignment paradigm. Research in this topic area will address both the methods and statistical tools, as well as the attributes and capabilities to be assessed in order to support team-based assignment in the future.

Topic areas of research interest include the following:

- Identifying characteristics that predict individuals' capacity of working effectively in team environments.
- Statistical optimization frameworks and models for ensuring team effectiveness across a large number of teams and team assignment decisions.
- Understanding of team composition and compilation models for predicting team outcomes (e.g., cohesion, adaptability, performance, effectiveness, readiness).
- Computational tools that embody scientific knowledge of team composition and compilation, team tasks and environmental conditions related to team outcomes, and optimization frameworks for personnel officers and leaders to use to assign members to teams.
- Understanding the impact of team process change over time as team members rotate in and out of units.
- Analytical tools for aggregating and displaying data and facilitating team-based assignment decisions, to include taking into account different, or multiple, team outcomes based on team needs.

  The ARI Manager is Dr. Stefanie P. Shaughnessy, (571) 585-1790, stefanie.p.shaughnessy.civ@army.mil

iii. Developing Teams for the Future Operational Environment

To be prepared for the future operational environment (FOE), the Army is undergoing a transformational change with a focus on improving its talent management system. This change will necessitate optimization of human potential, especially at the small-team level. Current trends suggest that the FOE will be characterized by an expanded battlespace across time, domains, geography, and actors, the convergence of capabilities through technology, and compression among strategic, operational, and tactical levels. The FOE will present challenges not just in the operational context, but also in training. The multi-domain operations (MDO) concept requires Army teams to operate semi-independently, but also to utilize capabilities across multiple domains in order to conduct sustained missions in highly contested environments. According to the Army People Strategy (2020), the Army must modernize training through the development of new tools, technology, and methods to optimize human performance for MDO. To do this, the Army needs a broad and deep research program that focuses on developing the talent of small teams as they acquire proficiency of both the critical tactical skills and the requisite team dimensions that will be required of them in the emerging operational environment. Despite a burgeoning research literature on teams, there is considerable evidence that current teams in the Army, and in modern organizations more broadly, are vastly different from teams in the past (Jones et al., 2020; Shuffler et al., 2020). With some notable exceptions, researchers largely remain vetted to a traditional understanding of teams as fairly static and independent entities (Tannenbaum et al., 2012). Thus, the current state of the scientific literature lacks specific practical insight about how to train Army teams in order to meet the dynamic complexities that they are expected face in the FOE. This research will inform the science of teams by providing a better understanding of team processes, emergent states, and training approaches, while simultaneously equipping Army trainers through the development of effective tools for optimizing individual and collective talent during home station training. Such research will thereby allow the Army to maximize its human potential to meet the challenges of the FOE.

Topic areas of research interest include the following:

- Identification of the individual and team KSAOs, or relationships among them, that small teams need to build and sustain team effectiveness in the FOE.
- Development of training approaches and tools to build individual team member KSAOs that enable teams to sustain mission performance in the FOE.
- Development of team training approaches and tools that build team KSAOs and team processes to enable sustained mission performance of teams in the FOE.
- Identification of the individual KSAOs and team-level characteristics that are necessary for the effectiveness of teams within multiteam systems.
- Development of training approaches and tools that facilitate optimal teaming and that enable teams to operate within multiteam systems.

The ARI Manager is Dr. Brian Crabb (254) 383-1132, brian.t.crabb.civ@army.mil

iv. Team Enablers

Performance in the current and future operational environments hinges not only on the performance of individuals, but on the performance of teams. This research examines the relationships and development of innovative measures of critical multilevel constructs, such as unit resilience, unit cohesion, and unit climate and determines how these key enablers impact unit-level readiness outcomes. The research also adds to the development of integrated measures of objective and perceptual data on these key team enablers

- Development and validation of innovative measures and models of collective constructs (e.g., resilience, cohesion, and command climate).
- Methods to improve unit/collective constructs (e.g., resilience, cohesion, command climate).
- Development and validation of integrated measures of collective constructs such as resilience, cohesion, command climate.
- The use of social network analysis to understand and investigate the pattern of communication among unit members within small Army units to determine how it influences team resilience.

The ARI Manager is Dr. Alok Bhupatkar, 703-712-3038, alok.a.bhupatkar.civ@army.mil

d. Assessing and Developing Technological Fluency for the Future Force

In the Future Operating Environment (FOE), Soldiers and squads will be teamed with increasingly sophisticated and evolving technologies. Soldiers and leaders in specialty areas (e.g., Cyber, Data Workforce, Technology Workforce) and General Purpose Forces (GPF) will require increased technological aptitudes and skills in order to adapt emerging technologies to evolving mission sets and avoid being overmatched by AI-enabled "smart" technologies. Technological Fluency (TF) - the ability of Soldiers and units to use and rapidly adapt new and emerging technologies without formal training on these technologies - will be a decisive factor in the FOE. This research will enable the creation of a "technologically fluent" Force by developing models of technological fluency, methods and measures to assess and develop the technological fluency of Soldiers across a career, and technologies to maximize resilience and performance in Soldiers and units. Modernization is incomplete without critical mass in the Force capable of learning and using those new technologies and systems. Talent Management reform is incomplete without foresight of future operational demands and the ability to recruit, assign, and develop Soldiers to meet those demands. To build a technologically fluent Force, Army talent management processes must be capable of modeling TF, assessing Soldier and unit TF, and developing performance for future mission success.

Areas of research include theoretical models or frameworks, methods, techniques, and tools to:

- Build individual difference assessments that reflect TF competencies leveraging existing measures and developing new, innovative measures.
- Expand the assessment of job performance to include criterion measures related to

TF, e.g., behavioral inputs to systems, system feedback of coordinated AI-human interactions, collective performance measures, training performance measures.

- Develop training and leader development programs to enhance the KSAOs reflecting TF competencies and to maximize performance in jobs/tasks requiring a high degree of TF.

The ARI Managers are Dr. Randy Brou, Office: 706-545-2550; randy.j.brou.civ@army.mil and Dr. Alok Bhupatkar, 703-712-3038, alok.a.bhupatkar.civ@army.mil

(End of Section)

B. FEDERAL AWARD INFORMATION:

The Army Contracting Command- Aberdeen Proving Ground, RTP Division has the authority to award a variety of instruments on behalf of ARI. Anticipated awards may be made in the form of procurement contracts, grants, cooperative agreements and, other transactions (OTs) for research, or OTs for prototypes. The ACC (APG) RTP Division reserves the right to use the type of instrument most appropriate for the effort proposed. Applicants should familiarize themselves with these instrument types and the applicable regulations before submitting a white paper or proposal. The following are brief descriptions of the possible award instruments:

1. **Procurement Contract:** A legal instrument, which consistent with 31 U.S.C. 6303, reflects a relationship between the Federal Government and a State, a local government, or other recipient when the principal purpose of the instrument is to acquire property or services for the direct benefit or use of the Federal Government.

   Procurement contracts awarded by the ACC (APG) RTP Division will contain, where appropriate, detailed special provisions concerning patent, rights in technical data and computer software, reporting requirements, equal employment opportunity, etc. No fee or profit will be allowed on travel and equipment.

   Contracts are primarily governed by the following regulations:

   a. Federal Acquisition Regulations (FAR)
   b. Defense Federal Acquisition Regulations (DFARS)
   c. Army Federal Acquisition Regulation Supplement (AFARS)

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

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

   b. Substantial involvement is not expected between the Department of Defense and the recipient when carrying out the activity contemplated by the grant.

c. No fee or profit is allowed.

3. **Cooperative Agreement:** A legal instrument which, consistent with 31 U.S.C. 6305, is used to enter into the same kind of relationship as a grant (see definition "grant"), except that substantial involvement is expected between the Department of Defense and the recipient when carrying out the activity contemplated by the cooperative agreement. The term does not include "cooperative research and development agreements" as defined in 15 U.S.C. 3710a. No fee or profit is allowed.

4. **Other Transaction for Research.** A legal instrument, consistent with 10 U.S.C. 4021, which may be used for basic, applied, and advanced research projects. The research covered under this instrument cannot be duplicative of research being conducted under an existing DoD program. To the maximum extent practicable, OTs for research are to provide for a 50/50 cost share between the Government and the applicant. An applicant's cost share may take the form of cash, independent research and development (IR&D), foregone intellectual property rights, equipment, access to unique facilities, and/or other means. Due to the extent of cost share, and the fact that an OT for research does not qualify as a "funding agreement" as defined at 37 CFR 401.2(a), the intellectual property provisions of this instrument can be negotiated to provide expanded protection to an applicant's intellectual property. No fee or profit is allowed on OTs for research. Please refer to the Office of the Under Secretary of Defense for Acquisition and Sustainment Other Transaction Guide version 2.0 dated July 2023 for additional information. This document, along with additional other transaction agreement (OTA) resources, may be accessed at the following link: https://www.acq.osd.mil/asda/dpc/cp/policy/other-policy-areas.html

5. **Other Transaction for Prototype or Production.** A legal instrument, consistent with 10 U.S.C. 4022, which provides DoD the flexibility necessary to adopt and incorporate business practices that reflect commercial industry standards and best practices into its award instruments. OTs for prototypes or production are not FAR-based procurement contracts, grants, cooperative agreements, or OTs for Research. OTs for prototypes or production have specific applications and conditions for use (see Appendix C of the Other Transactions Guide linked below). The effort covered under an OT cannot be duplicative of effort being conducted under an existing DoD program. Follow-on production contracts and/or an OT may be awarded to a Prototype Other Transaction Awardee, if applicable. Please refer to the Office of the Under Secretary of Defense for Acquisition and Sustainment Other Transaction Guide version 2.0 dated July 2023 for additional information. This document, along with other OTA resources, may be accessed at the following link: https://www.acq.osd.mil/asda/dpc/cp/policy/other-policy-areas.html

6. **Grants and cooperative agreements for institutions of higher education, nonprofit organizations, foreign organizations, and foreign public entities** are primarily governed by the following:

a. Federal statutes
b. Federal regulations
c. 2 CFR Part 200
d. 2 CFR 1104
e. 32 CFR Parts 21, 22, 26, and 28
f. DoD Research and Development General Terms and Conditions
g. Agency-specific Research Terms and Conditions

7. Grants and cooperative agreements for for-profit and nonprofit organizations exempted from Subpart E - Cost Principles of 2 CFR Part 200, are primarily governed by the following:

a. Federal statutes
b. Federal regulations
c. 32 CFR Part 34 - Administrative Requirements for Grants and Agreements with For-Profit Organizations
d. 32 CFR Parts 21, 22, 26, and 28
e. DoD Research and Development General Terms and Conditions
f. Agency-specific Research Terms and Conditions

8. OT for Research are primarily governed by the following**:**

a. Federal statutes
b. Federal regulations
c. Office of Secretary of Defense implementation guidance titled Other Transactions (OT) Guide for Prototype Projects (July 2023, Version 2)
d. Guide to Research Other Transactions under 10 U.S.C. 4021 issued by the Office of the Under Secretary of Defense for Research and Engineering

9. OTs for Prototypes or Production are primarily governed by the following:

a. Federal statutes
b. Federal regulations
c. Office of Secretary of Defense implementation guidance titled Other Transactions (OT) Guide for Prototype Projects (July 2023, Version 2)

10. The following websites may be accessed to obtain an electronic copy of the governing regulations and terms and conditions:

- FAR, DFARS, and AFARS: https://www.acquisition.gov
- Code of Federal Regulations (CFR): http://www.ecfr.gov
- DoD Research and Development General Terms and Conditions: https://www.nre.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions
- Agency-specific Research Terms and Conditions: https://arl.devcom.army.mil/resources/baa-forms/#terms-and-conditions

(End of Section)

C. ELIGIBILITY INFORMATION:

1. Eligible Applicants:

Proposals are sought from institutions of higher education, non-profit organizations, and for-profit organizations, domestic or foreign, for research and development (R&D) in those areas specified in SECTION II. A of this BAA. Foreign organization and foreign public entities are advised that security restrictions may apply that could preclude their participation in these efforts. Countries included on the U.S. State Department List of Countries that Support Terrorism are excluded from participation in these efforts.

Government Laboratories, Federal Funded Research and Development Centers (FFRDCs), and U.S. Service Academies are not eligible to participate as prime Contractors or Recipients under this BAA. If a proposal selected for award includes the involvement of a Government laboratory, Federally Funded Research and Development Center, or U.S. Service Academy, award funds allocated for the involvement of Government laboratories, FFRDCs, and/or U.S. Service Academies will be directly provided from ARI to the respective Government laboratory, FFRDC or U.S. Service Academy via a Military Interdepartmental Purchase Request (MIPR). No award funds will be channeled directly from a prime awardee (e.g., Contractor or Recipient) to a Government laboratory, FFRDC, or U.S. Service Academy.

2. Cost Sharing or Matching:

Generally, there is no requirement for cost sharing, matching, or cost participation to be eligible for award under this BAA. Cost sharing and matching is not an evaluation factor used under this BAA. Exceptions may exist if the applicant is proposing the use of an OT for research or prototype as an award instrument. Cost-sharing requirements may be found within the specified Other Transactions regulations and Other Transaction Guides referenced in this BAA. Applicants are encouraged to consider cost sharing schemes in cooperation with ARI.

In addition, if cost sharing is proposed on a grant or cooperative agreement proposal submitted by a nonprofit or institution of higher education, the award will be subject to the restrictions at 2 CFR 200.306. If cost sharing is proposed on a contract proposal, the award will be subject to the restrictions at FAR 35.003

(End of Section)

D. APPLICATION AND SUBMISSION INFORMATION:

1. Address to View Broad Agency Announcement:

Grants.gov (www.grants.gov)
Contract Opportunities (sam.gov)

2. Content and Form of Application Submission:

Section 1 – General Information

Completeness of Information: Proposals must include all of the information specified in this BAA to prevent delays in evaluation. Be sure to specify the Commercial and Government Entity (CAGE Code), the DUNS Number, and the Taxpayer Identification Number (TIN) with your submission. Completion of the Representations and Certifications as well as registration in the System for Award Management (SAM) are prerequisites before receiving an award.

Classified Submissions: **Do not** submit any proposals that include classified information. ACC-APG-RTP is not allowed to accept classified submissions.

Use of Color in Proposals: All proposals received will be stored as electronic images. Electronic color images require a significantly larger amount of storage space than black-and-white images. As a result, Applicant's use of color in proposals should be used only when necessary to convey specific information.

Government Property/Government Furnished Equipment and Facilities: Normally, title to equipment or other tangible property purchased with Government funds vests with nonprofit institutions of higher education or with nonprofit organizations whose primary purpose is conducting scientific research if vesting will facilitate scientific research performed for the Government. For-profit organizations are expected to possess the necessary plant and equipment to conduct the proposed research. Deviations may be made on a case-by-case basis to allow for-profit organizations to purchase equipment, but regulatory disposition instructions must be followed.

Controlled Unclassified Information (CUI): Proposals may discuss the need to access or generate controlled unclassified information for the proposed work. When an award requires access to CUI, DFARS Clause 252.204-7012 will be included in the award, as well as additional ARI specific requirements as determined necessary. For questions regarding the potential for access to controlled unclassified information, please coordinate with the TPOC for that topic area prior to whitepaper or proposal submission.

Post-Employment Conflict of Interest: There are certain post-employment restrictions on former Federal officers and employees, including special Government employees (Section 207 of Title 18, U.S.C.). If an Applicant believes a conflict of interest may exist, the Applicant should discuss the situation with the Army legal counsel, Mr. Brian Bentley, (571) 256-7844, brian.e.bentley2.civ@army.mil, prior to expending time and effort in preparing a proposal.

Statement of Disclosure Preference: Please complete Form 52 or 52A stating your preference for release of information contained in your proposal. Copies of these forms are available at http://www.arl.army.mil/www/default.cfm?page=218. Additionally, proposals containing data that is not to be disclosed to the public for any purpose or used by the Government except for evaluation purposes shall include the following statement on their

cover page:

> This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this proposal. If, however, an award is made to this Applicant as a result of, or in connection with, the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting award. This restriction does not limit the Government's right to use information contained in this proposal if the information has been obtained from another source without restriction. The data subject to this restriction are contained in sheets _____.
>
> The Applicant shall also mark each sheet of data it wants to restrict with the following legend:
>
> "Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal."

Section 2 – Application Process Overview

The application process is in three stages as follows:

Stage 1- Provide a valid unique entity identifier (formerly DUNS). Please verify the accuracy of your Unique Entity Identifier (formerly DUNS) at the Dun and Bradstreet (D&B) website http://fedgov.dnb.com/webform before registering with the System for Award Management System (SAM). Prospective Applicants must be registered in SAM at https://www.sam.gov prior to submitting its application.

Stage 2 - Prospective Applicants are encouraged, but not required, to submit White Papers prior to the submission of a complete proposal. The purpose of submitting a White Paper is to minimize the labor and cost associated with the production of a detailed proposal that has little chance of being selected for funding. Feedback on a White Paper will be provided to the Applicant with either "encouraged to submit a proposal" or "not encouraged to submit a proposal".

Stage 3 - Interested Applicants are required to submit a proposal. All proposals submitted under the terms and conditions cited in this BAA will be reviewed regardless of whether an Applicant submitted a White Paper.

Section 3 – White Paper Preparation

A White Paper should focus on describing details of the proposed research, including how it is innovative and how it could substantially advance the state of the science. Army relevance and potential impact should also be described, as well as an estimate of total cost for the proposed effort. White Papers should present the effort in sufficient detail to allow evaluation of the concept's technical merit and its potential contributions to the Army mission.

A White Paper must be limited to six (6) pages (page one is the cover page) and an addendum in which the Applicant must include a biographical sketch (up to 300 words per individual) of all key personnel (i.e., Principal Investigators and Co-Principal Investigators) who will perform the research, highlighting their qualifications and experience as discussed below. All files and forms must be compiled into a single PDF file or MS Word document before submitting. Reviewers will be advised that they are only to review the cover page and up to five pages plus the addendum. Any pages submitted in excess of the six (6) page limit will not be reviewed or evaluated.

TECHNICAL INFORMATION FOR A WHITE PAPER:

1. Technical Approach: A detailed discussion of the effort's scientific research objectives, approach, relationship to similar research, level of effort, and estimated total cost; include the nature and extent of the anticipated results, and if known, the manner in which the work will contribute to the accomplishment of the Army's mission related to this request and how this would be demonstrated.

2. Requests for Government Support: The type of support, if any that the Applicant requests of the Government (such as facilities, equipment, demonstration sites, test ranges, software, personnel or materials) shall be identified as Government Furnished Equipment (GFE), Government Furnished Information (GFI), Government Furnished Property (GFP), or Government Furnished Data (GFD). Applicant shall indicate any Government coordination that may be required for obtaining equipment or facilities necessary to perform any simulations or exercises that would demonstrate the proposed capability.

3. The cost portion of the whitepaper shall contain a brief cost estimate including research hours, burden, material costs, travel, etc.

4. Key Personnel Biographical Information: As an addendum to the White Paper, the Applicant must include a biographical sketch (up to 300 words per individual) of all key personnel (i.e., Principal Investigators and Co-Principal Investigators) who will perform the research, highlighting their qualifications and experience.

RESTRICTIVE MARKINGS ON WHITE PAPERS:

The Applicant must clearly identify and mark any proprietary data the Applicant intends to be used only by the Government. The Applicant must also identify any technical data or computer software contained in the White Paper that is to be treated by the Government as limited rights or restricted rights respectively. In the absence of such

1. identification, the Government will assume to have unlimited rights to all technical data or computer software presented in the White Paper. Records or data bearing a restrictive.

2. An Applicant is cautioned, however, that portions of a White Paper may be subject to release under terms of the Freedom of Information Act, 5 U.S.C. 552, as amended.

Section 4 – White Paper Submission

A White Paper of the proposed effort may be submitted electronically to the cognizant ARI Manager listed in Section II. A with e-mail subject line "ARI BAA W911NF-23-S-0010 White Paper" addressing specific technical area(s) and an estimate of proposed cost.

An Applicant preparing a White Paper for submission may follow any convenient format desired as long as the submission complies with guidance above in Section 3, "White Paper Submission." **Please enclose an e-mail address and a telephone number where you can be reached.**

Section 5 – Review of White Papers

ARI TPOCs will receive and consider all whitepapers submitted and will provide a response with either "encouraged to submit a proposal" or "not encouraged to submit a proposal".

Section 6 – Preparation of Proposals

PROPOSAL PREPARATION INSTRUCTIONS:

General Information: The proposal is the only vehicle available to the Applicant for receiving consideration for award. The proposal must stand on its own merit; only information provided in the proposal can be used in the evaluation process leading to an award. The proposal should be prepared simply and economically, providing straightforward, concise delineation of capabilities necessary to perform the proposed work. The technical volume must be accompanied by a fully supported cost volume as cost and technical considerations are reviewed simultaneously; the cost volume should assume a start date of no earlier than 01 November 2023. In preparing proposals, it is important that the Applicant keep in mind the characteristics of a proposal acceptable for evaluation. A proposal must include all the information specified in this announcement in order to receive consideration. All proposals must include:

1. An Abstract, Background, Application Potential, Technical Approach, Reference List, Curriculum Vitae/Resumes of proposed researchers, and cost information, as described below.

2. Contact information such as e-mail addresses and telephone numbers for both the Principal Investigator and Institutional Representative to allow technical and contracting questions to be addressed.

3. Institutional endorsement, signature of the proposed Principal Investigator, time frames for all phases of the project, and detailed accounts of proposed work and cost by task.

4. Provide the name, address, and phone number of Applicant's cognizant Defense Contract Audit Agency (DCAA) office, if known. All Applicants must be registered in the System for Award Management (SAM) before an award can be made. Applicants must also provide their DUNS number (Duns and Bradstreet Data Universal Numbering System).

   Proposals should be very well written, and Applicant's intention should be clear to technical reviewers who, while having expertise in behavioral sciences, may lack concentrated knowledge in the proposed domain. Proposals should be sufficiently detailed to be responsive to the criteria, described below, for evaluation.

Proposal Format and Content: To ensure all proposals receive proper consideration, the Government-recommended proposal format shown below (Volume I Technical) should be followed. This format can most easily be incorporated as the proposal table of contents and serves as a final checklist as well. Proposals must address at least one of the domains for basic or applied/advanced research cited in SECTION II. A of this BAA.

Proposal documents (excluding illustrations, tables, and required forms) must use the following page format:

- Page Size – 8 ½ x 11 inches
- Margins – 1 inch
- Spacing – single
- Font – Times New Roman, 12 point

Note: The Abstract, Background, Application Potential and Technical Approach sections of a proposal, including any appendices, tables, or figures, must be no greater than 23 pages in length. (The cover page, table of contents, proposal reference list, curriculum vitae, cost information and institutional information are not included in the 23-page limit). **Reviewers will not review any pages beyond the 23-page limit.**

VOLUME I – TECHNICAL

i Cover Page
ii Table of Contents
iii Abstract
1. Background
2. Application Potential
3. Technical Approach
4. Reference List
5. Curriculum Vitae/Resumes of Key Personnel

i. Cover Page: A cover page is required. Proposals will not be processed without:

A SF 424 R&R Form (required for assistance agreement proposals submitted online via Grants.gov (see section 8- Submission of Proposals).

Note: If an Applicant elects to submit a contract proposal via Grants.gov instead of via e-mail, the SF 424 R&R Form is required. Proposals for Grants or cooperative agreements only require the SF 424 R&R Form.

The cover page should include the BAA number, Research Area(s) of Interest, name and telephone number for the principal points of contact (both technical and contractual), proposed project title, and any other information that identifies the proposal. The cover page should also contain the proprietary data disclosure statement, if applicable (ARO FORM 52 or 52A). The title of the proposed project should be brief, scientifically representative, intelligible to a scientifically literate reader, and suitable for use in the public domain. Should the project be carried out at a branch campus or other component of the submitting organization, that branch campus or component should be identified in the space provided (Block 12 on the SF 424 R&R).

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

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

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

Research and Related Personal Data form:

This form will be used by DoD as the source of demographic information, such as gender, race, ethnicity, and disability information for the Project Director/Principal Investigator and all other persons identified as Co-Project Director{s)/Co-Principal Investigator(s). Each application must include this form with the name fields of the Project Director/Principal Investigator and any Co-Project Director(s)/Co-Principal Investigator(s) completed; however, provision of the demographic information in the form is voluntary. If completing the form for multiple individuals, each Co-Project Director/Co-Principal Investigator can be added by selecting the "Next Person" button. The demographic information, if provided, will be used for statistical purposes only and will not be made available to merit reviewers. Applicants who do not wish to provide some or all of the information should check or select the "Do not wish to provide" option.

The proposed duration for which support is requested should be consistent with the nature and complexity of the proposed activity and associated budget. The Federal awarding agency reserves the right to make awards with shorter or longer periods of performance. Specification of a desired starting date for the project is important and helpful. However, requested effective dates cannot be guaranteed.

Pursuant to 31 U.S.C. 7701, as amended by the Debt Collection Improvement Act of 1996

[Section 31001(I)(1), Public Law 104-134], Federal agencies shall obtain each awardee's Taxpayer Identification Number (TIN). This number may be the Employer Identification Number (EIN) for a business or non-profit entity or the Social Security Number for an individual. The TIN is being obtained for purposes of collecting and reporting on any delinquent amounts that may arise out of an awardee's relationship with the Government. Applicants must provide their organization's Data Universal Numbering System (DUNS) number. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services.

Applicants must provide their assigned Commercial and Government Entity (CAGE) code. The CAGE code is a 5-character code assigned and maintained by the Defense Logistics Service Center (DLSC) to identify a commercial plant or establishment.

ii. Table of Contents: It is highly recommended that the Applicant follow the above table of contents (Volume I, "Technical") and use it for a final quality-control checklist.

iii. Abstract: The abstract allows the Applicant to present briefly and concisely the important aspects of its proposal. It should summarize the proposed research objectives, expectations, and the basic approaches to be used in the proposed effort. The abstract must identify implications for applied research if the project is successful. The abstract should be 250 words or less. Abstracts longer than 250 words will not be read.

1. Background: This section should describe the research problem, discuss relevant theory, and summarize existing research. It is important that the proposal identify specific, relevant hypotheses following discussion of theory. When integrating theories or research domains, an overarching framework supporting such integration should be described. When appropriate, a graphic depiction of the conceptual model and hypotheses may be provided.

2. Technical Approach: The technical approach should follow and expand upon the background section and provide a detailed description of the proposed research. This account should be much like the methods section of a research paper. The technical approach should include: a description of the data to be collected, the methods for collecting the data, the number and source of participants (e.g., using power analysis) and how they will be acquired, the research design, the measures to be used, and the analysis plan. Proposals for secondary research (e.g., meta- analyses) should provide estimates of the likely number of primary studies and/or effects available in the research literature for analysis. If the intermediate or final product of research will include training packages, simulation models, or other software-based device, the proposal should relate the product to the research hypotheses and provide sufficient detail to permit understanding and evaluation.

The technical approach should detail and set a schedule for the major tasks to be performed and products to be produced. In the case of a one-year proposal, the research plan should be divided by quarters of the year. In the case of multi-year proposals, it should be divided semi-annually or by major tasks within a year. The technical approach should specifically identify what tasks will be performed by which party and why each subcontractor, if any, was selected to perform its task(s).

3. Technical Discussion: No technical approach is without its limitations or shortcomings. Every issue should be identified and compared with the successes/failures of previous approaches. A trade-off analysis is a good way to make this comparison and should be supported by theory, simulation, modeling, experimental data, or other sound engineering and scientific practices. If the Offeror has a "new and creative" solution to the problem(s), that solution should be developed and analyzed in this section. The preferred technical approach should be described in as much detail as is necessary or useful to establish confidence in the approach. The technical discussion should include the following:

- A complete discussion stating the background and objectives of the proposed work, the scientific approaches to be considered, the relationship to competing or related research, and the level of effort to be employed; include the nature and extent of the anticipated results and how they will significantly advance the scientific state-of-the-art; if known, include the manner in which the work will contribute to the accomplishment of the Army's mission; ensure the proposal identifies any scientific uncertainties and describes specific approaches for the resolution of the uncertainties

- A brief description of your organization

- The names of other Government agencies or other parties receiving the proposal and/or funding the proposed effort (if none, so state); concurrent or later submission of the proposal to other organizations will not prejudice its review by ARI if we are kept informed of the situation

- A statement regarding possible impact, if any, of the proposed effort on the environment considering as a minimum its effect upon water, atmosphere, natural resources, human resources, and any other values

- The Offeror shall provide a statement regarding the use of Class I and Class II ozone-depleting substances. Ozone-depleting substances mean any substance designated as Class I by the Environmental Protection Agency (EPA), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform and any substance designated as Class II by EPA, including but not limited to hydrochlorofluorocarbons. See 40 C.F.R. Part 82 for detailed information. If Class I or II substances are to be utilized, a list shall be provided as part of the Offeror's proposal. If none, so state.

- Requested support (if any) in the following areas: facilities, equipment, and materials.

4. Reference List: All cited references must be listed. Do not include publications that are not referenced. The references list must be in American Psychological Association (APA) format, consistent with the most recent APA Publications Manual.

5. Curriculum Vitae/Resumes of Key Personnel: Curriculum vitae or résumés

should be included for all proposed researchers with special emphasis on the Principal Investigator, Co-Principal Investigator(s), and Consultants; documents are limited to five (5) pages per investigator to include name, brief biography, and list of recent, relevant publications.

VOLUME II – COST

The cost volume shall justify the need for and amount of major direct expense categories, including (but not limited to) labor, equipment, and travel. The cost estimate for the proposed effort should sufficiently detail elements of cost and the need for these items to allow for meaningful evaluation. The cost volume should clearly and closely align with the planned methodology presented in the technical approach section. A cost estimate should be detailed for each task of the proposed work and should include the following:

a. A complete detail of direct labor to include, by category, labor hours and rates
b. Fringe benefits rate and base
c. An itemized list of equipment showing cost of each item and justification for inclusion
d. Description and cost of expendable supplies
e. Complete detail of travel to include number of people and duration of travel, reason/need for travel, destination, airfare, per diem, rental car, etc. Note that in recent years, travel costs for one conference per year to present work from the funded research effort has been a typical request
f. Complete detail of any subcontracts to include labor categories, skill levels, and labor rates and hours
g. Other direct costs (reproduction, computer, etc.)
h. Indirect cost rates and bases with an indication whether rates are fixed or provisional and the time frame to which they are applied
i. Proposed fee, if any and if applicable
j. Cost sharing, if any and if applicable
k. Any documentation which supports all items above
l. Applicants should furnish the name and telephone number of their cognizant audit agency

COST PROPOSAL PREPARATION:

1. Cost Reimbursement or Fixed Price Award: Selection of the type of award (cost reimbursement or fixed price) is based upon various factors, such as (1) award instrument selected, (2) type of research to be performed, (3) the contractor's experience maintaining cost records, and (4) the ability to detail and allocate proposed costs and performance of the work. Cost-type awards are most commonly used because of their suitability in supporting research and development efforts as they permit some flexibility in the redirection of efforts due to recent research experiment results or changes in Army guidance. Fixed-price-type awards are used when the research project costs can be estimated accurately, the services to be rendered are reasonably definite, and the amount of property, if any, is fixed. The negotiated price is not subject to any adjustment on the basis of the Applicant's cost experience in performing the contract. An Applicant may propose either cost-reimbursable or fixed-price contract arrangements. Assistance awards such as Grants or Cooperative Agreements may be arranged as well, but the award type may vary in accordance with relevant factors as determined by ARI and ACC (APG) RTP Division. Grants and Cooperative Agreement

awards will be cost reimbursable without profit or fee.

2. Cost Proposal Content: A proposal should represent an Applicant's best response to the solicitation, including cost information. Any inconsistency, whether real or apparent, between promised performance and cost or price data must be fully explained in the proposal. Failure to explain any significant inconsistencies may demonstrate an Applicant's lack of understanding of the nature and scope of the work required. Accordingly, the cost volume must be sufficient to establish the reasonableness, realism, and completeness of the proposed cost/price. Further, any modifications made to the initial proposal resulting in a change in the cost volume must likewise be thoroughly supported in writing regardless of whether such changes are made during negotiations or at the time of a proposal revision. The estimate should be detailed for each task of the proposed work. The cost volume should be limited to the minimum number of pages necessary to satisfy the specific requirements set forth herein. Submission of volumes of computer-generated data to support the cost volume is not necessary or desired. If computer-generated data is essential to support the cost volume, it may be submitted as an addendum and must be clearly cross-referenced to the material it supports in the cost volume.

   Each proposal must contain a budget for each year of support requested and a cumulative budget for the full term of requested support. The proposal may list funds under any of the categories listed so long as the item is considered necessary to perform the proposed work and is not precluded by applicable cost principles. In addition to the forms, the budget should include no more than five (5) pages of budget justification narrative for each year.

   A signed summary budget page must be included. The documentation pages should be titled "Budget Explanation Page" and numbered chronologically starting with the budget form. The need for each cost element should be explained clearly.

   All cost data must be current and complete. Costs proposed must conform to the following principles and procedures:

   Before award it must be established that an approved accounting system and financial management system exist for an Applicant.

   The following specific information is required:

   1. Summary by cost element and profit or fee for total proposal **(Note: Profit/Fee not allowed for grants, cooperative agreements, or Other Transaction Agreements for the prime recipient of the award or any subrecipients)**

   2. Labor summary for total proposal by labor categories, proposed hours per labor category, and hourly rates per labor category

   3. Explanation of how labor rates are computed including base rates (actuals), fringe, and escalation, if any

   4. Interdivisional transfers (detailed breakout of costs), if applicable

5. Identification of indirect rates by fiscal year and explanation of how established and base to which they apply

6. Bill of materials detailing items by type, quantity, unit price, total amount, and source of estimate (provide vendor written quotes)

7. Summary of all travel by destination, purpose, number of people and days, air fare, per diem, car rental, etc.

8. Consultant(s) by name, hourly rate, and number of hours (furnish copy of consulting agreement and identify prior agreement(s) under which the consultant commanded proposed rate)

9. Computer use by type, rate, and quantity

10. Other direct costs by type, amount, cost per unit, and purpose (specifically identify any costs for printing or publication)

11. DD Form 1861 (if proposing facilities capital cost of money)

12. Forecast of monthly and cumulative dollar commitments for the proposed performance period

13. Subcontractor's proposal, with prime Applicant's price/cost analysis of subcontractor's proposal (if subcontract was not competed, include justification)

3. Subawardee Cost Proposals: Subawardees' cost proposals must be similarly structured. All subcontracted work must be properly identified as such. If a subcontractor elects to submit an abbreviated proposal to an Applicant, it is Applicant's responsibility to see that the subcontractor simultaneously submits a complete detailed proposal properly identified directly to the Government Contracting or Grants Officer. An Applicant's proposal must:

    1. Identify principal items/services to be subcontracted;

    2. Identify prospective subcontractors and the basis on which they were selected (if non- competitive, provide selected source justification);

    3. Identify the type of contractual arrangement contemplated for each subcontract and the rationale for the same;

    4. Identify the cost or pricing data or information other than cost or pricing data submitted by each subcontractor; and

    5. Provide an analysis concerning the reasonableness, realism, and completeness of each subcontractor's proposal; if the analysis is based on a comparison with prior research efforts, identify the basis on which the prior costs or prices were

determined to be reasonable.

Section 7 -- Conference and Symposia Grants

A. Introduction. Through the award of a grant, the Army supports conferences and symposia (as defined in the DoD Travel Regulations) in areas of science that bring experts together to discuss recent research or educational findings or to expose other researchers or advanced graduate students to new research and educational techniques. The Army encourages the convening in the United States of major international conferences, symposia, and assemblies of international alliances.

B. Eligibility. Notwithstanding the Army's authority to provide grant support for such events, only non-commercial scientific, technical, or professional organizations that qualify for tax exemption may receive a conference grant/symposia grant. Those who meet this requirement should also be aware that the DoD does not permit "co- sponsorship" (as defined in DoD 5500.07-R) absent additional high-level staffing and approval. In other words, the conference grant support identified in this BAA is NOT DoD sponsorship or co-sponsorship since ARI is neither an organizer, nor provider, of any substantial logistical support for the conferences addressed in this section.

C. Conference Support. Conference support proposals should be submitted a minimum of six (6) months prior to the date of the conference. It is anticipated that support for conferences and symposia may take multiple forms including financial support for the meeting, travel support for speakers, or travel support to allow attendance and participation by advanced graduate students and junior faculty.

D. Technical Proposal Preparation. The technical portion of a proposal for support of conference or symposium should include:

1. A one page or less summary indicating the objectives of the project,
2. The topics to be covered,
3. The location and probable date(s) and why the conference is considered appropriate at the time specified,
4. An explanation of how the conference and requested support will relate to the research interests of the Army as identified in Section II. A of this BAA and how it will contribute to the enhancement and improvement of scientific, engineering, and/or educational in general and activities as outlined earlier in the research areas of this BAA,
5. The name of chairperson(s)/(PI)(s) and his/her biographical information,
6. If applicable, a list of proposed participants,
7. The methods of announcement or invitation,
8. A summary of how the results of the meeting will be disseminated, and
9. A signed cover page.

E. Cost Proposal Preparation. The cost portion of the proposal should show:

1. Total project conference costs by major cost elements.
2. Anticipated sources of conference income and amount from each.
3. Anticipated use of funds requested.
4. A signed budget.

F. Support for Federal Employee Attendance. Funds provided cannot be used for payment to any federal government employee for support, subsistence, or services in connection with the proposed conference or symposium.

G. Cognizant POC. It is highly recommended that potential applicants contact the appropriate POC identified earlier in the research areas of this BAA for advice and assistance before preparation of a conference/symposia proposal.

Section 8 – Submission of Proposals

Proposals must be submitted through the Applicant's organizational office having responsibility for Government business relations. The proposal must contain the signature of an authorized official. All signatures must be that of an official(s) authorized to commit the organization in business and financial affairs. The cover of the proposal should be marked with the BAA Solicitation Number W911NF-23-S-0010 along with the name of the research scientific area of interest(s) (see Section II. A of this BAA). Applicants are requested to provide their e-mail addresses upon submission of a proposal and also the name, address, and telephone number of their cognizant Defense Contract Audit Agency (DCAA) office, if known.

Proposals for Contracts and OTs may be submitted via e-mail or online via Grants.gov. Proposals for Grants or cooperative agreements (assistance) MUST be submitted online via Grants.gov. Further, it is recommended a copy of any proposal submitted also be furnished to the cognizant ARI Manager listed in Section II. A.

EMAIL SUBMISSION:

Proposals for contracts and OTs may be e-mailed directly to usarmy.rtp.devcom-arl.mbx.baa@army.mil. or submitted online via Grants.gov, http://Grants.gov. Proposals for assistance agreements cannot be sent via email, see below for submission of Assistance agreement proposals through Grants.gov. The **Proposer must also send a copy of the proposal to cognizant ARI Manager listed in Section II. A**.

a. Proposals for contracts and OTs may be e-mailed directly to usarmy.rtp.devcom-arl.mbx.baa@army.mil. Full proposals MUST be emailed to the cognizant ARI Manager listed in Section II. A. **All submissions must include "ARI BAA W911NF-23-S-0010" in the subject line.**

   All e-mailed proposals must contain the information outlined in Section II. D. 2 (Section 6- Preparation of Proposals) including all the electronic forms.

b. All forms requiring signature must be completed, printed, signed, and scanned into a PDF document. All documents must be combined into a single PDF formatted file to be attached to the email.

Proposals are to be provided in electronic MS Word or Adobe PDF format. The proposal must include the complete technical and cost volumes of the proposal. Electronic versions of the technical and cost volumes must be combined into one electronic file. The proposal must include the signature of the authorized institutional representative. If the electronic version does not include a signature from the appropriate representative of the Applicant, the Government Procurement Contracting Officer must be provided a signed and dated copy prior to award if selected.

GRANTS.GOV: (mandatory submission portal for grant and cooperative agreement proposals; optional submission portal for contract proposals). Please e-mail a courtesy copy of proposals to cognizant ARI Manager listed in Section II. A. Grants.gov registration (see Section 8) must be accomplished prior to application through this process.

(1) Proposals requesting Assistance agreements must be submitted via Grants.gov; proposals requesting a Contract or OT may be submitted either via Grants.gov or email (instructions above).

(2) Grants.gov Registration must be accomplished prior to application submission in Grants.gov.

Each organization that desires to submit applications via Grants.Gov must complete a one-time registration. There are several one-time actions your organization must complete in order to submit applications through Grants.gov (e.g., obtain a Unique Entity Identifier, register with the SAM, register with the credential provider, register with Grants.gov and obtain approval for an authorized organization representative (AOR) to submit applications on behalf of the organization). To register please see http://www.grants.gov/web/grants/applicants/organization-registration.html

Please note the registration process for an Organization or an Individual can take between three to five business days or as long as four weeks if all steps are not completed in a timely manner.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process should be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

NOTE: All web links referenced in this section are subject to change by Grants.gov and may not be updated here.

(3) Specific forms are required for submission of a proposal. The forms are contained in the Application Package available at http://www.grants.gov under the specific opportunity you

are submitting under. When viewing an opportunity, select the "Package" tab and then select "View." A Grant Application Package and Application Instructions are available for this BAA through the Grants.gov Apply portal under CFDA Number 12.630 or Funding Opportunity Number W911NF-23-S-0010. To apply, select "Apply" and then "Apply Now Using Workspace."

*NOTE: Effective 31 December 2017, applicants must apply online at Grants.gov using the application Workspace. For access to complete instructions on how to apply for opportunities using Workspace refer to https://www.grants.gov/web/grants/applicants/workspace-overview.html.

The following documents are mandatory: (1) Application for Federal Assistance (R&R) (SF 424 (R&R)), and (4) Attachments form.

(4) The SF 424 (R&R) form is to be used as the cover page for all proposals submitted via Grants.gov. The SF 424 (R&R) must be fully completed. AOR usernames and passwords serve as "electronic signatures" when your organization submits applications through Grants.gov. By using the SF 424 (R&R), proposers are providing the certification required by 32 CFR Part 28 regarding lobbying (see Section II.F.2.a.ii of this BAA). Block 11, "Descriptive Title of Applicant's Project," must reference the research topic area being addressed in the effort by identifying the specific paragraph from Section II.A of this BAA.

(5) The Attachments form must contain the documents outlined in Section II.D.2. under Section 6 – Preparation of Proposals". All documents must be combined into separate and single PDF formatted files using the Table of Contents names. Include "W911NF-23-S-0010 in the title so the proposal will be distinguished from other BAA submissions and upload each document to the mandatory Attachments form.

(6) The applicant must include with its proposal submission the representations required by Section II.F.2.a.ii of this BAA. The representations must include applicant POC information and be signed by an authorized representative. Attach the representations document to an available field within the Attachments form. Note: If the applicant's online SAM Representations and Certifications include its response to the representations, a hard copy representation is not required with proposal submission.

(7) The Grants.gov User Guide at: https://www.grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm will assist AORs in the application process. Remember that you must open and complete the Application for Federal Assistance (R&R) (SF 424 (R&R)) first, as this form will automatically populate data fields in other forms. If you encounter any problems, contact customer support at 1-800-518-4726 or at support@grants.gov. If you forget your user name or password, follow the instructions provided in the Credential Provider tutorial. Tutorials may be printed by right-clicking on the tutorial and selecting "Print".

(8) As it is possible for Grants.gov to reject the proposal during this process, it is strongly recommended that proposals be uploaded at least two days before any established deadline in the BAA so that they will not be received late and be ineligible for award consideration. It is also

recommended to start uploading proposals at least two days before the deadline to plan ahead for any potential technical and/or input problems involving the applicant's own equipment.

3. Unique Entity Identifier and System for Award Management (SAM):

a. Each applicant (unless the applicant is an individual or Federal agency that is exempt from those requirements under 2 CFR 25.110(b) or (c), or has an exception approved by the agency under 2 CFR 25.110(d)) is required to:

i. Provide a valid unique entity identifier (formerly DUNS) in its application. Please verify the accuracy of your Unique Entity Identifier (formerly DUNS) at the Dun and Bradstreet (D&B) website http://fedgov.dnb.com/webform before registering with the System for Award Management System (SAM).

ii. Be registered in SAM at https://www.sam.gov prior to submitting its application; and

iii. Maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

b. The SAM obtains Legal Business Name, Doing Business Name (DBA), Physical Address, and Postal Code/ Zip+4 data fields from D&B. If corrections are required, registrants will not be able to enter/modify these fields in SAM; they will be pre-populated using D&B Unique Entity Identifier record data. When D&B confirms the correction has been made, the registrant must then re-visit sam.gov and click a "yes"" to D&B's changes. Only at this point will the D&B data be accepted into the SAM record. Allow a minimum of two (2) business days for D&B to send the modified data to SAM.

c. The Federal awarding agency may not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements. If an applicant has not fully complied with the requirements by the time the Federal awarding agency is ready to make a Federal award, the Federal awarding agency 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. Submission Dates and Times:

Proposals will be accepted via the methods noted previously through **11:59 PM Eastern Daylight Time on 30 April 2028**.

It is the Applicant's responsibility to assure that a proposal submission is received by the respective date and time specified above. If your proposal submission is not received at the initial point of entry to the Government (received through web based system, e-mail or post-marked if applicable) by the exact date and time specified above, it will be determined late and will not be evaluated. The submission of a courtesy copy of an assistance (non-contract) proposal to the cognizant ARI Manager listed in Section II. A does not fulfill the timeliness requirement.

Grants.gov: After a proposal is submitted to Grants.gov, the AOR will receive a series of three emails from Grants.gov. The first two emails will be received within 24 to 48 hours after submission. The first email will confirm time of receipt of the proposal by the Grants.gov system and the second will indicate that the proposal has either been successfully validated by the system prior to transmission to the grantor agency or has been rejected due to errors. A third email will be received once the grantor agency has confirmed receipt of the proposal. Reference the Grants.gov User Guide at https://www.grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm for information on how to track your application package.

For the purposes of this BAA, an applicant's proposal is not considered received by ARI until the AOR receives email #3.

5. Intergovernmental Review:

Not Applicable

6. Funding Restrictions:

There are no funding restrictions associated with this BAA.

7. Other Submission Requirements:

a. Information to be Requested from Successful Applicants: Applicants whose proposals are accepted for funding may be contacted before award to provide additional information required for award. The required information is normally limited to clarifying budget explanations, representations, certifications, and some technical aspects.

b. For Contracts Only- Performance Work Statements (PWS): Prior to award, the Contracting Officer may request that the contractor submit a PWS for the effort to be performed, which will be incorporated into the contract at the time of award.

c. Organizational Conflicts of Interest (OCI): In accordance with the Federal Acquisition Regulations (FAR) Subpart 9.5, Organizational and Consultant Conflicts of Interest (OCI) and 2 Code of Federal Regulations (CFR) §200.112, there is the potential for the Applicant to have an OCI if the Applicant has a pending or current Intergovernmental Personnel Act (IPA) agreement with ARI. The Applicant will need to identify and address mitigation measures for an OCI due to the IPA agreement as part of their submission under this BAA. Failure to include an OCI plan may result in the proposal being rejected for consideration of funding.

(End of Section)

E. APPLICATION REVIEW INFORMATION:

1. Criteria: Proposals will initially be evaluated as to whether they constitute basic, applied, or advanced technology development research.

Basic research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific application of processes or products in mind, whereas applied research provides a systematic expansion and application of knowledge to design and develop useful strategies, techniques, methods, tests, or measures that provide the means to meet a recognized and specific Army need. Advanced Technology Development program includes the development of technologies, components, or prototypes that can be tested in field experiments and/or simulated environments. Projects in this category have a direct relevance to identified military needs. These projects should demonstrate the general military utility or cost reduction potential of technology in the areas of personnel selection, assignment, and retention; advanced data analytics and models applied to talent management; development of higher-order competencies for Soldiers and Leaders; holistic assessment of unit readiness; and team and unit mission effectiveness. These projects should be focused on a more direct operational benefit and, if successful, the technology should be available for transition.

Proposals received in response to this BAA will be evaluated by scientific peers internal, and possibly external to the Army, using the following criteria. ARI may solicit input on technical aspects of proposals from non-Government consultants/experts who are strictly bound by non-disclosure requirements. Criterion (a) is most important; the other criteria are of equal importance to one another. All evaluation factors/criteria other than cost, when combined, are significantly more important than cost or price:

(a) Scientific and Technical Merit- The overall scientific and/or technical merits of the proposed research;

(b) Potential Contribution- The potential contributions to ARI's mission;

(c) Qualifications/Capabilities – Proposed principal investigator and key personnel qualifications, capabilities, related experience, and techniques and also institutional resources and facilities;

(d) Cost - Addresses the level of support requested. Will be considered for realism, affordability, and appropriateness, and may be grounds for rejection independent of evaluation on other factors.

Review and Selection Process:

(a) All Proposals are treated as privileged information prior to award and the contents are disclosed to Government employees or designated support contractors only for the purpose of evaluation. The Applicant must indicate on the appropriate proposal form or in the proposal any limitation to be placed on disclosure of information contained in the proposal form (ARO Form 52 or 52A) any limitation to be placed on disclosure of information contained in the proposal to non-

Government evaluators.

(b) All Proposals will be evaluated based on the merit and relevance of the specific R&D proposed as it relates to the overall ARI research program, rather than against other proposals in the same general area. Each evaluated proposal will receive a recommendation of "select" or "do not select" as supported by the evaluation

(c) In accordance with OMB guidance in 200 of Title 2, CFR, it is DoD policy that DoD Components must report and use integrity and performance information in the Federal Awardee Performance and Integrity Information System (FAPIIS), or any successor system designated by OMB, concerning Grants, Cooperative Agreements, and OTAs.

2. Recipient Qualification

a. Grant and Cooperative Agreement Proposals:

i. The Grants Officer is responsible for determining a recipient's qualification prior to award. In general, a Grants Officer will award grants or cooperative agreements only to qualified recipients that meet the standards at 32 CFR 22.415. To be qualified, a potential recipient must:

(1) Have the management capability and adequate financial and technical resources, given those that would be made available through the grant or cooperative agreement, to execute the program of activities envisioned under the grant or cooperative agreement;

(2) Have a satisfactory record of executing such programs or activities (if a prior recipient of an award);

(3) Have a satisfactory record of integrity and business ethics; and

(4) Be otherwise qualified and eligible to receive a grant or cooperative agreement under applicable laws and regulations.

Applicants are requested to provide information with proposal submissions to assist the Grants Officer's evaluation of recipient qualification.

Applicants are requested to provide information with proposal submissions to assist the Grants Officer's evaluation of recipient qualification.

ii. In accordance with Office of Management and Budget (OMB) guidance in parts 180 and 200 of Title 2, CFR, it is DoD policy that DoD Components must report and use integrity and performance information in the Federal Awardee Performance and Integrity Information System (FAPIIS), or any successor system designated by OMB, concerning grants, cooperative agreements, and OTs for research as follows:

If the total Federal share will be greater than the simplified acquisition threshold on any Federal award under a notice of funding opportunity (see 2 CFR 200.88 Simplified Acquisition Threshold):

- The Federal awarding agency, prior to making a Federal award with a total amount of Federal share greater than the simplified acquisition threshold, will review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (formerly FAPIIS) (see 41 U.S.C. 2313);

- An applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM;

- The Federal awarding agency 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 review of risk posed by applicants as described in 2 CFR 200.205 Federal awarding agency review of risk posed by applicants.

b. Contract Proposals:

i. Contracts shall be awarded to responsible prospective contractors only. See FAR 9.104-1 for a listing of the general standards against which an applicant will be assessed to determine responsibility.

Applicants are requested to provide information with proposal submission to assist the Contracting Officer's evaluation of responsibility.

ii. FAPIIS will be checked prior to making an award. The web address is: https://cpars.gov. The applicant representing the entity may comment in this system on any information about the entity that a federal government official entered. The information in FAPIIS will be used in making a judgment about the entity's integrity, business ethics, and record of performance under Federal awards that may affect the official's determination that the applicant is qualified to receive an award.

c. Research and Prototype OTA Proposals:

i. Proposals for Research and Prototype OTAs may only be considered for award once it has been determined that the eligibility requirements of 10 U.S.C. 4021 or 10 U.S.C. 4022, as well as the Other Transactions Guides referenced in this BAA, have been satisfied.

(End of Section)

F. AWARD ADMINISTRATION INFORMATION:

1. Award Notices:

An Applicant whose proposal is recommended for award will be contacted by a Government Contract/Grant Specialist to discuss any additional information required for award. Additional information required may include representations and certifications, revised budgets or budget explanations, certificate of current cost or pricing data, subcontracting plan for small businesses, and other information as applicable to the proposed award. The anticipated award start date will be determined at this time. The appropriate award document, when signed by the Government Contracting/Grants Officer, is the authorizing award document.

The notification email is not an authorization to commit or expend funds. The Government is not obligated to provide any funding until a Government Contracting/ Grants/Agreements Officer signs the award document.

The award document signed by the Government Contracting/Grants Officer is the official and authorizing award instrument. The authorizing award instrument, signed by the Contracting/ Grants/Agreements Officer, will be emailed to the PI and AOR.

2. Administrative and National Policy Requirements:

a. Required Representations and Certifications:

i. Contract Proposals:

(1) Representations and certifications shall be completed by successful applicants prior to award. FAR Online Representations and Certifications are to be completed through SAM at https://www.SAM.gov. As appropriate, DFARS and contract-specific certification packages will be provided to the contractor for completion prior to award to include, but not limited the following contractual requirements:

(2) FAR 52.203-18, PROHIBITION ON CONTRACTING WITH ENTITIES THAT REQUIRE CERTAIN CONFIDENTIALITY AGREEMENTS OR STATEMENTS—REPRESENTATION (JAN 2017)

(a) Definition. As used in this provision--

"Internal confidentiality agreement or statement," "subcontract," and "subcontractor," are defined in the clause at 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements.

(b) In accordance with section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions), Government agencies are not permitted to use funds appropriated (or otherwise made available) for contracts with an entity that requires employees or subcontractors of such entity seeking to report waste, fraud, or abuse to sign internal

confidentiality agreements or statements prohibiting or otherwise restricting such employees or subcontractors from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

(c) The prohibition in paragraph (b) of this provision does not contravene requirements applicable to SF 312, (Classified Information Nondisclosure Agreement), Form 4414 (Sensitive Compartmented Information Nondisclosure Agreement), or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(d) Representation. By submission of its offer, the applicant represents that it will not require its employees or subcontractors to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting such employees or subcontractors from lawfully reporting waste, fraud, or abuse related to the performance of a Government contract to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information (e.g., agency Office of the Inspector General).

(3)FAR 52.204-26, COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES-REPRESENTATION (OCT 2020)

a) Definitions. As used in this provision, "covered telecommunications equipment or services" and "reasonable inquiry" have the meaning provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(c)(1) Representation. The Offeror represents that it [ ] does, [ ] does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument.

(2) After conducting a reasonable inquiry for purposes of this representation, the offeror represents that it [ ] does, [ ] does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services.

(4) FAR 52.209-11, REPRESENTATION BY CORPORATIONS REGARDING DELINQUENT TAX LIABILITY OR A FELONY CONVICTION UNDER FEDERAL LAW (FEB 2016)

(a) As required by sections 744 and 745 of Division E of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L 113-235), and similar provisions, if

contained in subsequent appropriations acts, the Government will not enter into a contract with any corporation that--

(1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or

(2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

(b) The Offeror represents that—

It is [ ] is not [ ] a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

It is [ ] is not [ ] a corporation that was convicted of a felony criminal violation under a Federal law within the preceding 24 months.

ii. Grant and Cooperative Agreement Proposals:

(1) Grant awards greater than $100,000.00 require a certification of compliance with a national policy mandate concerning lobbying. Statutes and Government-wide regulations require the certification to be submitted prior to award. When submitting your grant through Grants.gov, by completing blocks 18 and 19 of the SF 424 (R&R) Form, the grant applicant is providing the certification on lobbying required by 32 CFR Part 28; otherwise a copy signed by the AOR must be provided. Below is the required certification:

CERTIFICATION AT APPENDIX A TO 32 CFR PART 28 REGARDING LOBBYING: Certification for Contracts, Grants, Loans, and Cooperative Agreements the undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit SF-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000.00 and not more than $100,000.00 for each such failure.

(2) In accordance with Continuing Appropriations Act, 2017 (Pub. L. 114-223), or any other Act that extends to fiscal year (FY) 2023 funds the same prohibitions as contained in section 743, division E, title VII, of the Consolidated Appropriations Act, 2016 (Pub. L. 114-113), none of the funds appropriated or otherwise made available by that or any other Act may be made available for a grant or cooperative agreement with an entity that requires its employees or contractors seeking to report fraud, waste, or abuse to sign internal confidentiality agreements or statements prohibiting or otherwise restricting those employees or contractors from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive the information.

PROHIBITION ON CONTRACTING WITH ENTITIES THAT REQUIRED CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS – REPRESENTATION

Agreement with the representation below will be affirmed by checking the “I agree” box in block 17 of the SF424 (R&R) as part of the electronic proposal submitted via Grants.gov. The representation reads as follows:

By submission of its proposal or application, the applicant represents that it does not require any of its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting those employees, contractors, subrecipients from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

*Note that: Section 743 states that it does not contravene requirements applicable to SF 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(3) Recipients are required to submit the following representation with the application package IAW the instructions at Section D of this BAA:

REPRESENTATIONS UNDER DOD ASSISTANCE AGREEMENTS: APPROPRIATIONS PROVISIONS ON TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant is ( ) is not ( ) a "Corporation" meaning any entity, including any institution of higher education, other nonprofit organization, or for-profit entity that has filed articles of incorporation.

If the applicant is a "Corporation" please complete the following representations:

(a) The applicant represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

(b) The applicant represents that it is ( ) is not ( ) is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

NOTE: If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the agency suspension and debarment official (SDO) has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore should provide information about its tax liability or conviction to the agency's SDO as soon as it can do so, to facilitate completion of the required considerations before award decisions are made.

PROHIBITION ON CONTRACTING WITH ENTITIES USING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Section 889 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2019 (Public Law 115-232) prohibits the head of an executive agency from obligating or expending loan or grant funds to procure or obtain, extend, or renew a contract to procure or obtain, or enter into a contract (or extend or 105 renew a contract) to procure or obtain the equipment, services, or systems prohibited systems as identified in section 889 of the NDAA for FY 2019. For more information on how this applies to all grant recipients and sub-recipients after August 13, 2020, please see DoD Research General Terms and Conditions (SEP 2021) NP Article IV. Other national policy requirements, paragraph 18.

b. Policy Requirements:

The following list provides notable national policy requirements that may be applicable to an award. NOTE: The following is not an all-inclusive list of policy requirements. For assistance awards, refer to the DoD Research and Development General Terms and Conditions at https://www.nre.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions for additional national policy requirements that may apply. For contract awards, appropriate clauses will be added to award documents.

i. PROTECTION OF HUMAN SUBJECTS

(1) For Assistance Instruments:

(a) The recipient must protect the rights and welfare of individuals who participate as human subjects in research under this award and comply fully with the requirements at 32 CFR part 219, Department of Defense Instruction (DoDI) 3216.02, 10 U.S.C. 980, the National Policy Requirements Concerning Live Organisms Terms and Conditions (Section A.1., Human Subjects, at 81 Federal Register 78380, Appendix C to Part 1122), and when applicable, Food and Drug Administration (FDA) policies and regulations.

(b) The recipient must not begin performance of research involving human subjects, also known as human subjects research (HSR), that is covered under 32 CFR part 219, or that meets exemption criteria under 32 CFR 219.104(d), or expend funding on such effort, until the recipient receives a formal notification of approval from the cognizant DoD Human Research Protection Official (HRPO). Approval to perform HSR under this award is received after the HRPO has performed a review of the recipient's documentation of planned HSR activities and has officially furnished a concurrence with the recipient's determination as presented in the documentation.

(c) In order for the HRPO to accomplish this concurrence review, the recipient must provide sufficient documentation to enable his or her assessment as follows:

(i) If the HSR meets one or more exemption criteria under 32 CFR 219.104(d), the documentation must include a citation of the exemption category/ies under 32 CFR 219.104(d) and a rationale statement.

(ii) If the recipient's activity is determined as "non-exempt research involving human subjects," the documentation must include:

- Documentation of Assurance of Compliance (a written assurance that an institution will comply with requirements of 32 CFR Part 219, as well as the terms of the assurance) appropriate for the scope of work or program plan; and

- Institutional Review Board (IRB) approval, as well as all documentation reviewed by the IRB to make their determination.

(d) The HRPO retains final judgment on what activities constitute HSR, whether an exempt category applies, whether the risk determination is appropriate, and whether the planned HSR activities comply with the requirements in paragraph (a) of this section.

(e) The recipient must notify the Grants Officer/Agreements Officer immediately of any suspensions or terminations of the Assurance of Compliance.

(f) DoD staff, consultants, and advisory groups may independently review and inspect the recipient's research and research procedures involving human subjects and, based on such findings, DoD may prohibit research that presents unacceptable hazards or otherwise fails to comply with DoD requirements.

(g) Definitions for terms used in this section are found in DoDI 3216.02.

The Army Research Institute HRPO is:

Dr. Erica Michael, Senior Research Psychologist
U.S. Army Research Institute
6000 6th Street
Fort Belvoir, VA 22060-5586
(703) 545-9590, erica.b.michael.civ@army.mil

(2) For Contracts: DFARS clause 252.235-7004 is applicable to this solicitation and will be included in its entirety in any resultant contract award that supports research that includes or may include HSR.

ii. ANIMAL USE:

Assistance Instruments:

Prior to initiating any animal work under the award, the recipient must:

Register the recipient's research, development, test, and evaluation or training facility with the Secretary of Agriculture in accordance with 7 U.S.C. 2136 and 9 CFR section 2.30, unless otherwise exempt from this requirement by meeting the conditions in 7 U.S.C. 2136 and 9 CFR parts 1-4 for the duration of the activity.

(ii) Have the recipient's proposed animal use approved in accordance with DoDI 3216.01, Use of Animals in DoD Programs by a DoD Component Headquarters Oversight Office.

(iii) Furnish evidence of such registration and approval to the grants officer.

(b) The recipient must make the animals on which the research is being conducted, and all premises, facilities, vehicles, equipment, and records that support animal care and use available during business hours and at other times mutually agreeable to the recipient, the United States Department of Agriculture Office of Animal and Plant Health Inspection Service

(USDA/APHIS) representative, personnel representing the DoD component oversight offices, as well as the grants officer, to ascertain that the recipient is compliant with 7 U.S.C. 2131 et seq., 9 CFR parts 1-4, and DoDI 3216.01.

(c) The recipient's care and use of animals must conform with the pertinent laws of the United States, regulations of the Department of Agriculture, and regulations, policies, and procedures of the DoD (see 7 U.S.C. 2131 et seq., 9 CFR parts 1-4, and DoDI 3216.01).

(d) The recipient must acquire animals in accordance with DoDI 3216.01.

(2) Contracts: The appropriate clauses shall be added to the award.

iii. BIOLOGICAL SAFETY PROGRAM REQUIREMENTS:

Assistance Instruments and Contracts: Awards may be subject to biological safety
(1) program requirements IAW:

Army Regulation (AR) 385-10, Chapter 20
https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN16777_ARN16343_AR385_10_ FINAL.pdf

(b) Department of Army (DA) Pamphlet (PAM) 385-69 on safety standards for microbiological and biomedical laboratories. This pamphlet requires the mandatory use of the latest edition of the
U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) and National Institutes of Health's (NIH) Biosafety in Microbiological and Biomedical Laboratories (BMBL) https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/p385_69.pdf

(c) DoD Manual 6055.18-M, Enclosure 4, Section 13
https://www.hsdl.org/?view&did=24365

iv. MILITARY RECRUITING:

(1) Assistance Instruments: This is to notify potential applicants that each grant or cooperative agreement awarded under this announcement to an institution of higher education must include the following term and condition:

(a) As a condition for receiving funds available to the DoD under this award, you agree that you are not an institution of higher education (as defined in 32 CFR part 216) that has a policy or practice that either prohibits, or in effect prevents:

(i) The Secretary of a Military Department from maintaining, establishing, or operating a unit of the Senior Reserve Officers Training Corps (ROTC)—-in accordance with 10 U.S.C. 654 and other applicable Federal laws—-at that institution (or any sub-element of that institution);

(ii) Any student at that institution (or any sub-element of that institution) from enrolling in a unit of the Senior ROTC at another institution of higher education.

(iii) The Secretary of a Military Department or Secretary of Homeland Security from gaining access to campuses, or access to students (who are 17 years of age or older) on campuses, for purposes of military recruiting in a manner that is at least equal in quality and scope to the access to campuses and to students that is provided to any other employer; or

(iv) Access by military recruiters for purposes of military recruiting to the names of students (who are 17 years of age or older and enrolled at that institution or any sub-element of that institution); their addresses, telephone listings, dates and places of birth, levels of education, academic majors, and degrees received; and the most recent educational institutions in which they were enrolled.

(b) If you are determined, using the procedures in 32 CFR part 216, to be such an institution of higher education during the period of performance of this award, we:

(i) Will cease all payments to you of DoD funds under this award and all other DoD grants and cooperative agreements; and

(ii) May suspend or terminate those awards unilaterally for material failure to comply with the award terms and conditions.

v. SUBCONTRACTING:

(1) Assistance Instruments: N/A

(2) Contracts: Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)), it is the policy of the Government to enable small business and small disadvantaged business (SDB) concerns to be considered fairly as subcontractors. All other than U.S. small businesses proposing contracts expected to exceed $750,000.00 and that have subcontracting possibilities are required to submit a subcontracting plan IAW FAR 19.702(a), and shall do so with their proposal.

Subcontracting plans are determined to be acceptable or unacceptable based on the criteria established at FAR 19.705-4, DFARS 219.705-4, and AFARS 5119.705-4. Goals are established on an individual contract basis and should result in realistic, challenging and attainable goals that, to the greatest extent possible, maximize small business participation in subcontracting for Small Business, SDB, Woman-Owned Small Business (WOSB), Economically-Disadvantaged Women-Owned Small Business (EDWOSB), Service-Disabled Veteran-Owned Small Business (SDVOSB), Veteran-Owned Small Business (VOSB), and Historically Underutilized Business Zone (HUBZone) Small Business consistent with applicants' make-or-buy policy, the pool of and availability of qualified and capable small business subcontractors, their performance on subcontracts, and existing relationships with suppliers.

Subcontracting goals should result in efficient contract performance in terms of cost, schedule,

and performance and should not result in increased costs to the Government or undue administrative burden to the prime contractor. For reference, DoD Small Business Subcontracting Goals may be found at: http://www.acq.osd.mil/osbp/statistics/sbProgramGoals.shtml.

vi. EXPORT CONTROL LAWS:

(1) Assistance Instruments: N/A

(2) Contracts: Applicants should be aware of current export control laws and are responsible for ensuring compliance with all International Traffic in Arms Regulation (ITAR) (22 CFR 120 et. Seq.) requirements, as applicable. In some cases, developmental items funded by the Department of Defense are now included on the United States Munition List (USML) and are therefore subject to ITAR jurisdiction. Applicants should address in their proposals whether ITAR restrictions apply or do not apply, such as in the case when research products would have both civil and military application, to the work they are proposing to perform for the Department of Defense. The USML is available online at http://www.ecfr.gov/cgi-bin/textidx?node=pt22.1.121. Additional information regarding the President's Export Control Reform Initiative can be found at http://export.gov/ecr/index.asp.

vii. DRUG-FREE WORKPLACE:

(1) Assistance Instruments: The recipient must comply with drug-free workplace requirements in Subpart B of 2 CFR part 26, which is the DoD implementation of 41 U.S.C. chapter 81, "Drug-Free Workplace."

(2) Contracts: The appropriate FAR/DFARS clause(s) shall be added to the award.

DEBARMENT AND SUSPENSION:

(1) Assistance Instruments: The recipient must comply with requirements regarding debarment and suspension in Subpart C of 2 CFR part 180, as adopted by DoD at 2 CFR part 1125. This includes requirements concerning the recipient's principals under an award, as well as requirements concerning the recipient's procurement transactions and subawards that are implemented in DoD Research and Development General Terms and Conditions PROC Articles I through III and SUB Article II.

(2) Contracts: The appropriate FAR/DFARS clause(s) shall be added to the award.

vii. SUBAWARDS AND EXECUTIVE COMPENSATION:

(1) Assistance Instruments: The recipient must report information about subawards and executive compensation as specified in the award term in Appendix A to 2 CFR part 170, "Reporting subaward and executive compensation information," modified as follows:

(a) To accommodate any future designation of a different Government wide Web site for reporting subaward information, the Web site "http://www.fsrs.gov" cited in paragraphs a.2.i. and a.3 of the award provision is replaced by the phrase "http://www.fsrs.gov or successor OMB-designated Web site for reporting subaward information";

(b) To accommodate any future designation of a different Government wide Web site for reporting executive compensation information, the Web site "http://www.sam.gov" cited in paragraph b.2.i. of the award provision is replaced by the phrase "https://www.sam.gov or successor OMB-designated Web site for reporting information on total compensation"; and

(c) The reference to "Sec. ___.210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations" in paragraph e.3.ii of the award term is replaced by "2 CFR 200.330, as implemented in DoD Research and Development General Terms and Conditions SUB Article I of this award."

(2) Contracts: The appropriate FAR/DFARS clause(s) shall be added to the award.

iv. CONFLICT OF INTEREST/CONFLICT OF COMMITMENT REVIEW:

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

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

ARI may conduct a pre-award conflict of interest/conflict of commitment review, as defined in the National Security Presidential Memorandum- 33, of any proposal selected for funding. Applicants are advised that any significant conflict of interest/conflict of commitment identified may be a basis for the rejection of an otherwise awardable proposal.

3. Reporting:

Reporting requirements, including number and types, will be specified in the award document. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed upon 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.

a. **Reporting and Meeting Requirements**. In addition to other requirements that the award

proposal may specify, all awards shall be held to the following reporting and meeting requirements:

i. Kick-off meeting: A kick-off meeting will be scheduled within three (3) months of award.

ii. Administrative Progress Reports: Progress will reports will be submitted monthly or quarterly or as otherwise determined by the Contracting Officer's Representative (COR), Grants Officer's Representative (GOR) or Cooperative Agreement Manager (CAM). Reports will be filed with the COR, GOR or CAM as applicable summarizing progress, projected activities, challenges and difficulties encountered, status report on level of effort, and funds expended, cumulative funds remaining, and anticipated expenses.

iii. Annual Interim Progress Review Briefing: Meeting to be conducted once a year at Ft. Belvoir or other location on a date to be determined.

iv. Site Visit: at the discretion of the government, the COR/GOR or other ARI representative may make a site visit to location where research is being performed. Site visits will be coordinated and arranged with the Principal Investigator.

v. Interim Technical Report(s): Interim reports will be required on a periodic basis for all multi-year awards and describe the technical work completed to accomplish the major tasks outlined in the proposal. The proposed schedule of interim reports should conform to major tasks in the proposal.

vi. Final Project Review Meeting: A project close-out meeting will be scheduled in the final quarter of the award to review results and conclusions of the research effort.

vii. Final Technical Report: Draft report is due no later than 2 months prior to end of award.

viii. Journal Articles, Book Chapters, and Book: request copy of journal article, book chapter, and/book simultaneous with final acceptance.

ix. Data and Associated Files: Cleaned, de-identified data files in SPSS, SAS, or comma-delimited text formats along with associated syntax and dictionary files shall be provided via a secure electronic means in compliance with AR 25-1 and 25-2 as appropriate with the final report.

(End of Section)

G. FEDERAL AWARD AGENCY CONTACTS:

Questions of a technical nature are to be directed to:

Primary Technical Points of Contact:

The technical points of contact (ARI Managers) for each area of interest (Section II. A) are identified as part of the description of that area and may be contacted as appropriate.

General Technical Points of Contact:

Dr. Susann Nourizadeh, (703) 545-2351, susann.m.nourizadeh.civ@army.mil
Dr. Elizabeth Uhl, (703) 545-2408, elizabeth.r.uhl.civ@army.mil

Questions of a business nature are to be directed to:

Megan Deluca, megan.a.deluca.civ@army.mil

Comments or questions submitted should be concise and to the point, eliminating any unnecessary verbiage. The e-mail subject line should cite "**ARI BAA W911NF-23-S-0010**." Additionally, the relevant part and paragraph of the BAA should be referenced.

(End of Section)

H. OTHER INFORMATION:

Below are two (2) samples of the cost proposal informational requirements for a procurement contract or Grants and cooperative agreements,

1. CONTRACT PROPOSALS:

Cover sheet to include:

(1) BAA number;

(2) Technical area;

(3) Lead Organization submitting proposal;

(4) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NON-PROFIT";

(5) Contractor'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 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 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).

(11) Place(s) and period(s) of performance;

(12) Total proposed cost separated by basic award and option(s) (if any);

(13) Name, address, and telephone number of the proposer's cognizant Defense Contract Management Agency (DCMA) administration office (if known);

(14) Name, address, and telephone number of the proposer's cognizant Defense Contract Audit Agency (DCAA) audit office (if known);

(15) Date proposal was prepared;

(16) DUNS number;

(17) TIN number; and

(18) CAGE Code;

(19) Subcontractor information; and

(20) Proposal validity period

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

I. Reasoning for Submitting a Strong Cost Proposal:

The ultimate responsibility of the Contracting Officer is to ensure that all prices/costs offered in a proposal are fair and reasonable before contract award [FAR 15.4]. To establish the reasonableness of the offered prices/costs, the Contracting Officer may ask an Applicant to provide various supporting documentation that assists in this determination. The Applicant's ability to be responsive to the Contracting Officer's requests can expedite the award process. As specified in Section 808 of Public Law 105-261, an Applicant who does not comply with a requirement to submit information for a contract or subcontract in accordance with paragraph (a)(1) of FAR 15.403-3 may be ineligible for award.

II. DCAA-Accepted Accounting System:

A) Before a contract can be awarded, the Contracting Officer must confirm that the Applicant has a Defense Contract Audit Agency (DCAA)-accepted accounting system in place for accumulating and billing costs under Government contracts [FAR 53.209-1(f)]. If the Applicant has DCAA correspondence which documents the acceptance of their accounting system, this should be provided to the Contracting Officer (i.e. attached or referenced in the proposal). Otherwise, the Contracting Officer will submit an inquiry directly to the appropriate DCAA office and request a review of the Applicant's accounting system.

B) If an Applicant does not have a DCAA-accepted accounting system in place, the DCAA review process can take several months depending upon the availability of the DCAA auditors and the Applicant's internal processes. This will cause a delay in contract award.

C) For more information about cost proposals and accounting standards, view the link titled "Information for Contractors" on the main menu on their website.

III. Field Pricing Assistance:

During the pre-award cost audit process, the Contracting Officer will solicit support from DCAA to determine commerciality and price reasonableness of the proposal [FAR 15.404-2]. Any proprietary information or reports obtained from DCAA field audits will be appropriately identified and protected within the Government.

IV. Sample Cost Proposal – "Piece by Piece":

A) To help guide Applicant through the pre-award cost audit process, a sample cost volume is detailed below. This sample also allows the Applicant to see exactly what the Government is looking for; therefore, all cost and pricing back-up data can be provided to the Government in the first cost proposal submission. Review each cost element within the proposal, and take note of the types of documentation that the Contracting Officer will require from the Applicant.

B) Direct Labor: The first cost element included in the cost proposal is Direct Labor. The Department of Defense (DoD) requires each proposed employee to be listed by name and labor category.

Below is the Direct Labor as proposed by our sample Applicant:

DIRECT LABOR:		YEAR 1			YEAR 2		
Employee Name	Labor Category	Direct Hourly Rate	Hours	Total Direct Labor	Direct Hourly Rate	Hours	Total Direct Labor
Smith	Program Manager	$55.00	720.00	$39,600.00	$56.65	720.00	$40,788.00
Andrew	Senior Engineer	$40.00	672.00	$26,880.00	$41.20	672.00	$27,686.40
Thomas	Principal Engineer	$50.00	512.00	$25,600.00	$51.50	512.00	$26,368.00
Porter	Entry Level Engineer	$10.00	400.00	$4,000.00	$10.30	400.00	$4,120.00
Bean	Project Administrator	$25.00	48.00	$1,200.00	$25.75	48.00	$1,236.00
				$97,280.00			**$100,198.40**

(1) For this cost element, the Contracting Officer requires the Applicant to provide adequate documentation in order to determine that each labor rate for each employee/labor category is fair and reasonable. The documentation will need to explain how these labor rates were derived. For example, if the rates are DCAA-approved labor rates, provide the Contracting Officer with copies of the DCAA documents stating the approval. This is the most acceptable means of documentation to determine the rates fair and reasonable. Other types of supporting documentation may include General Service Administration (GSA) contract price lists, actual payroll journals, or Salary.com research. If an employee listed in a cost proposal is not a current employee (maybe a new employee, or one contingent upon the award of this contract), a copy of the offer letter stating the hourly rate - signed and accepted by the employee - may be provided as adequate documentation. Sometimes the hourly rates listed in a proposal are derived through subjective processes, i.e., blending of multiple employees in one labor category, or averaged over the course of the year to include scheduled payroll increases, etc. These situations should be clearly documented for the Contracting Officer.

(2) Another cost element in Direct Labor is labor escalation, or the increase in labor rates from Year 1 to Year 2. In the example above, the proposed labor escalation is 3% (ex., Andy Smith increased from $55.00/hr in Year 1, by 3% to $56.65/hr in Year 2). Whatever the proposed escalation rate is, please be prepared to explain why it is fair and reasonable [ex., A sufficient explanation for our sample escalation rate would be the Government's General Schedule Increase and Locality Pay for the same time period (name FY) in the same location (name location) was published as 3.5%, therefore a 3% increase is fair and reasonable].

(3) Other Direct Costs (ODCs): This section of the cost proposal includes all other directly related costs required in support of the effort i.e., materials, subcontractors, consultants, travel, etc. Any cost element that includes various items will need to be detailed in a cost breakdown to the Contracting Officer.

(4) Direct Material Costs: This subsection of the cost proposal will include any special tooling, test equipment, and material costs necessary to perform the project. Items included in this section will be carefully reviewed relative to need and appropriateness for the work proposed, and must, in the opinion of the Contracting Officer, be advantageous to the Government and directly related to the specific topic.

a) The Contracting Officer will require adequate documentation from the Applicant to determine the cost reasonableness for each material cost proposed. The following methods are ways in which the Contracting Officer can determine this [FAR 15.403-1].

i) Adequate Price Competition: A price is based on adequate price competition when the Applicant solicits and receives quotes from two or more responsible vendors for the same or similar items or services. Based on these quotes, the

Applicant selects the vendor who represents the best value to the Government. The Applicant will be required to provide copies of all vendor quotes received to the Contracting Officer.

Note: Price competition is not required for items at or below the micro-purchase threshold ($10,000.00). If an item's unit cost is less than or equal to $10,000.00, price competition is not necessary. However, if an item's total cost over the period of performance (unit cost * quantity is higher than $3,000.00, two or more quotes must be obtained by the Applicant.)

ii) Commercial Prices: Commercial prices are those published on current price lists, catalogs, or market prices. This includes vendors who have prices published on a General Services Administration (GSA) schedule contract. The Applicant will be required to provide copies of such price lists to the Contracting Officer.

iii) Prices set by law or regulation: If a price is mandated by the Government (i.e. pronouncements in the form of periodic rulings, reviews, or similar actions of a Governmental body, or embodied in the laws) that is sufficient to set a price.

b) Below is the list of Direct Material costs included in our *sample* proposal:

DIRECT MATERIAL COSTS:	YEAR 1	YEAR 2
Raw Materials	$35,000.00	$12,000.00
Computer for experiments	$4,215.00	$0.00
Cable (item #12-3657, 300 ft)	$1,275.00	$0.00
Software	$1,825.00	$1,825.00
Subtotal Direct Materials Costs (DM):	$42,315.00	$13,825.00

i) Raw Materials": This is a generic label used to group many material items into one cost item within the proposal. The Contracting Officer will require a detailed breakout of all the items that make up this cost. For each separate item over $3,000.00 (total for Year 1 + Year 2), the Applicant must be able to provide either competitive quotes received, or show that published pricing was used.

ii) "Computer for experiments": Again, this item is most likely a grouping of several components that make up one system. The Contracting Officer will require a detailed breakout of all the items that make up this cost. For each separate item over $3,000.00 (total for Year 1 + Year 2), the Applicant must be able to provide either competitive quotes received, or show that published pricing was used.

iii) "Cable": Since this item is under the micro-purchase threshold of $3,000.00,

competitive quotes or published pricing are not required. Simply provide documentation to show the Contracting Officer where this price came from.

iv) "Software": This cost item could include either one software product, or multiple products. If this includes a price for multiple items, please provide the detailed cost breakdown.

Note: The price for Year 1 ($1,825.00) is below the micro-purchase threshold; however, in total (Year 1 + Year 2) the price is over $3,000.00, so competitive quotes or published pricing documentation must be provided.

c) Due to the specialized types of products and services necessary to perform these projects, it may not always be possible to obtain competitive quotes from more than one reliable source. Each cost element over the micro-purchase threshold ($3,000.00) must be substantiated. There is always an explanation for HOW the cost of an item was derived. Provide the Contracting Officer with an explanation of how a cost or price was derived.

d) When it is not possible for an Applicant to obtain a vendor price through competitive quotes or published price lists, a Contracting Officer may accept other methods to determine cost reasonableness. Below are some examples of other documentation, which the Contracting Officer may accept to substantiate costs:

i) Evidence that a vendor/supplier charged another Applicant a similar price for similar services. Has the vendor charged someone else for the same product? (Two (2) to three (3) invoices from that vendor to different customers may be used as evidence.)

ii) Previous contract prices: Has the Applicant charged the Government a similar price under another Government contract for similar services? If the Government has already paid a certain price for services, then that price may already be considered fair and reasonable. (Provide the contract number, and billing rates for reference.)

iii) DCAA approved: Has DCAA already accepted or verified specific cost items included in your proposal? (Provide a copy of DCAA correspondence that addressed these costs.)

2) Below is the remaining ODC portion of our proposal including equipment, subcontractors, consultants, and travel. Assume in this scenario that competitive quotes or catalog prices were not available for these items:

OTHER DIRECT COSTS:	YEAR 1	YEAR 2
Equipment Rental for Analysis	$5,500.00	$5,600.00
Subcontractor - Lockheed	$25,000.00	$0.00
Consultant: John Bowers	$0.00	$12,000.00
Travel	$1,250.00	$1,250.00
Subtotal Other Direct Costs (ODC):	$31,750.00	$18,850.00

a) "Equipment Rental for Analysis": The Applicant explains that the Year 1 cost of $5,500.00 is based upon 250 hours of equipment rental at an hourly rate of $22.00/hr. One (1) invoice from the vendor charging another vendor the same price for the same service is provided to the Contracting Officer as evidence. Since this cost is over the micro-purchase threshold, further documentation to determine cost reasonableness is required. The Applicant is able to furnish another invoice charging a second vendor the same price for the same service.

b) "Subcontractor – Lockheed": The Applicant provides a copy of the subcontractor quote to the Contracting Officer in support of the $25,000.00 cost. This subcontractor quote must include sufficient detailed information (equivalent to the data included in the prime's proposal to the Government), so that the Contracting Officer can make a determination of cost reasonableness.

   i) As stated in Section 3.5(c)(6) of the DoD Cost Proposal guidance, "All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regards to labor, travel, equipment, etc. Provide detailed substantiation of subcontractor costs in your cost proposal."

   ii) In accordance with FAR 15.404-3, "the Contracting Officer is responsible for the determination of price reasonableness for the prime contract, including subcontracting costs". This means that the subcontractor's quote/proposal may be subject to the same scrutiny by the Contracting Officer as the cost proposal submitted by the prime. The Contracting Officer will need to determine whether the subcontractor has an accepted purchasing system in place and/or conduct appropriate cost or price analyses to establish the reasonableness of proposed subcontract prices. Due to the proprietary nature of cost data, the subcontractor may choose to submit their pricing information directly to the Contracting Officer and not through the prime. This is understood and encouraged.

   iii) When a subcontractor is selected to provide support under the prime contract due to their specialized experience, the Contracting Officer may request sole source justification from the Applicant.

c) "Consultant – John Bowers": Again, the Applicant shall provide a copy of the consultant's quote to the Contracting Officer as evidence. In this example, the consultant will be charging an hourly rate of $125.00/hour for 96 hours of support. The Applicant indicates to the Contracting Officer that this particular consultant

was used on a previous contract with the Government (provide contract number) and will be charging the same rate. A copy of the consultant's invoice to the Applicant under the prior contract is available as supporting evidence. Since the Government has paid this price for the same services in the past, determination has already been made that the price is fair and reasonable.

d) "Travel": The Contracting Officer will require a detailed cost breakdown for travel expenses to determine whether the total cost is reasonable based on Government per diem and mileage rates. This breakdown shall include the number of trips, the destinations, and the number of travelers. It will also need to include the estimated airfare per round trip, estimated car rental, lodging rate per trip, tax on lodging, and per diem rate per trip. The lodging and per diem rates must coincide with the Joint Travel Regulations. Please see the following website to determine the appropriate lodging and per diem rates: http://www.defensetravel.dod.mil. Additionally, the Applicant must provide why the airfare is fair and reasonable as well. Sufficient supporting documentation for both airfare and car rental would include print-outs of online research at the various travel search engines (Expedia, Travelocity, etc.) documenting the prices for airfare and car rentals thus proving why your chosen rate is fair and reasonable.

i) Below is a sample of the travel portion:

TRAVEL		Trips	Travelers	Nights	Days	Unit Cost	Total Travel
Airfare	roundtrip	1	1			$996.00	$996.00
Lodging	per day	1	1	1		$75.00	$75.00
Tax on Lodging (12%)	per day	1	1	1		$9.00	$9.00
Per Diem	per day	1	1		2	$44.00	$88.00
Automobile Rental	per day	1	1			$41.00	$41.00
Subtotal Travel							$1,209.00

C) Indirect Rates: Indirect rates include elements such as Fringe Benefits, General & Administrative (G&A), Overhead, and Material Handling costs. The Applicant shall indicate in the cost proposal both the indirect rates (as a percentage) as well as how those rates are allocated to the costs in the proposal.

Below is the Indirect Rates portion of our sample proposal:

INDIRECTS	YEAR 1	YEAR 2
Subtotal Direct Labor (DL):	$97,280.00	$100,198.40
Fringe Benefits, if not included in Overhead, rate (15.0000 %) X DL =	$14,592.00	$15,029.76
Labor Overhead (rate 45.0000 %) X (DL + Fringe) =	$50,342.40	$51,852.67
Total Direct Labor (TDL):	$162,214.40	$167,080.83

(1) In this example, the Applicant includes a Fringe Benefit rate of 15.00% that it allocated to the Direct Labor costs. They also propose a Labor Overhead rate of 45.00% that is allocated to the Direct Labor costs plus the Fringe Benefits.

(2) All indirect rates and the allocation methods of those rates must be verified by the Contracting Officer. In most cases, DCAA documentation supporting the indirect rates and allocation methods can be obtained through a DCAA field audit or proposal review. Many Applicants have already completed such reviews and have this documentation readily available. If an Applicant is unable to participate in a DCAA review to substantiate indirect rates, the Contracting Officer may request other accounting data from the Applicant to make a determination.

Cost of Money (COM): If Cost of Money (an imputed cost that is not a form of interest on borrowings- see FAR 31.205-20); an "incurred cost" for cost-reimbursement purposes under applicable cost-reimbursement contracts and for progress payment purposes under fixed-price contracts; and refers to— (1) Facilities capital cost of money (48 CFR 9904.414); and (2) Cost of money as an element of the cost of capital assets under construction (48 CFR 9904.417)) is proposed in accordance with FAR 31.205-10, a DD Form 1861 is required to be completed and submitted with the contractor's proposal.

D) Fee/Profit: The proposed fee percentage will be analyzed in accordance with DFARS 215.404, the Weighted Guidelines Method.

E) Small Business Subcontracting Plan: If the total amount of the proposal exceeds $750,000.00 and the Applicant is a large business, or an institute of higher education (other than HBCU/MI) and the resultant award is a contract, the Applicant shall be prepared to submit a subcontracting plan for small business and small disadvantaged business concerns. A mutually agreeable plan will be included in and made a part of the contract (see the goals listed at Section II, F, 2, b).

F) Property Management Plan: Any requirements resulting from this BAA may involve the issuance of Government property. Government property includes both Government-furnished property and/or Contractor-acquired property. Include in your Proposal a description of your property management system. Include specific areas of

how you will manage Government property (Property Management Plan). These areas shall address, if applicable, Acquisition of property; Receipt of Government property; Records of Government property; Physical inventory; Subcontractor control; Reports; Relief of stewardship responsibility and liability; Utilizing Government property; Maintenance; Property Closeout. If applicable, list any Voluntary Consensus Standards or Industry Leading Practices utilized in your property management system. Prior to any awards involving Government property, the Property Management Plan will be reviewed to determine if it is adequate, and is appropriately tailored to the complexity, sensitivity, and value of the property to be provided and/or acquired. There is no page limit for the Property Management Plan.

2. GRANT & COOPERATIVE AGREEMENT PROPOSALS (ASSISTANCE INSTRUMENTS)

Before award, it must be established that an approved accounting system and financial management system exist.

A) Direct Labor: Show the current and projected salary amounts in terms of man-hours, man-months, or annual salary to be charged by the Principal Investigator(s), faculty, research associates, postdoctoral associates, graduate and undergraduate students, secretarial, clerical, and other technical personnel either by personnel or position. State the number of man-hours used to calculate a man-month or man-year. For proposals from universities, research during the academic term is deemed part of regular academic duties, not an extra function for which additional compensation or compensation at a higher rate is warranted. Consequently, academic term salaries shall not be augmented either in rate or in total amount for research performed during the academic term. Rates of compensation for research conducted during non-academic (summer) terms shall not exceed the rate for the academic terms. When part or all of a person's services are to be charged as project costs, it is expected that the person will be relieved of an equal part or all of his or her regular teaching or other obligations. For each person or position, provide the following information:

(1) The basis for the direct labor hours or percentage of effort (e.g., historical hours or estimates);

(2) The basis for the direct labor rates or salaries: Labor costs should be predicted upon current labor rates or salaries. These rates may be adjusted upward for forecast salary or wage cost-of-living increases that will occur during the agreement period. The cost proposal should separately identify the rationale applied to base salary/wage for cost-of-living adjustments and merit increases. Each must be fully explained;

(3) The portion of time to be devoted to the proposed research, divided between academic and non-academic (summer) terms, when applicable;

(4) The total annual salary charged to the research project; and

(5) Any details that may affect the salary during the project, such as plans for leave and/or remuneration while on leave.

B) Fringe Benefits and Indirect Costs (Overhead, General and Administrative, and Other): The most recent rates, dates of negotiation, and the base(s) and periods to which the rates apply must be disclosed and a statement included identifying whether the proposed rates are provisional or fixed. If the rates have been negotiated by a Government agency, state when and by which agency. A copy of the negotiation memorandum should be provided. If negotiated forecast rates do not exist, Applicants must provide sufficient detail to enable a determination to be made that the costs included in the forecast rate are allocable according to 2 CFR Part 200, applicable OMB Circulars, and/or FAR/DFARS provisions. Applicants' disclosure should be sufficient to permit a full understanding of the content of the rate(s) and how it was established.

As a minimum, the submission should identify:

(1) All individual cost elements included in the forecast rate(s);

(2) Basis used to prorate indirect expenses to cost pools, if any;

(3) How the rate(s) were calculated;

(4) Distribution basis of the developed rate(s);

(5) Basis on which the overhead rate is calculated, such as "salaries and wages" or “total costs," and

(6) The period of the Applicant's fiscal year

C) Permanent Equipment: If facilities or equipment are required, a justification why this property should be furnished by the Government must be submitted. State the organization's inability or unwillingness to furnish the facilities or equipment. Applicants must provide an itemized list of permanent equipment showing the cost for each item. Permanent equipment is any article or tangible nonexpendable property having a useful life of more than one year and an acquisition cost of $5,000.00 or more per unit. The basis for the cost of each item of permanent equipment included in the budget must be disclosed, such as:

(1) Vendor Quotes: Show name of vendor, number of quotes received and justification, if intended award is to other than lowest bidder

(2) Historical Cost: Identify vendor, date of purchase, and whether or not cost represents lowest bid; include reason(s) for not soliciting current quotes

(3) Engineering Estimate: Include rationale for quote and reason for not soliciting

current quotes; if applicable, the following additional information shall be disclosed in the Applicant's cost proposal:

- Special test equipment to be fabricated by the awardee for specific research purposes and its cost

- Standard equipment to be acquired and modified to meet specific requirements, including acquisition and modification costs, listed separately

- Existing equipment to be modified to meet specific research requirements, including modification costs; do not include equipment the organization will purchase with its funds if the equipment will be capitalized for Federal income tax purposes; proposed permanent equipment purchases during the final year of an award shall be limited and fully justified

- Grants and cooperative agreements may convey title to an institution for equipment purchased with project funds. At the discretion of the Contracting/Grants Officer, the agreement may provide for retention of the title by the Government or may impose conditions governing the equipment conveyed to the organization. The Government will not convey title to commercial contractors.

D) Travel: Forecasts of travel expenditures (domestic and foreign) that identify the destination and the various cost elements (airfare, mileage, per diem rates, etc.) must be submitted. The costs should be in sufficient detail to determine the reasonableness of such costs. Allowance for air travel normally will not exceed the cost of round-trip, economy air accommodations. Specify the type of travel and its relationship to the research project. Additional travel may be requested for travel to Army laboratories and facilities to enhance agreement objectives and to achieve technology transfer.

E) Materials, Supplies, and Consumables: A general description and total estimated cost of expendable equipment and supplies are required. The basis for developing the cost estimate (vendor quotes, invoice prices, engineering estimate, purchase order history, etc.) must be included. If possible, provide a material list.

F) Publication, Documentation, and Dissemination: The budget may request funds for the costs of preparing, publishing, or otherwise making available to others the findings and products of the work conducted under an agreement, including costs of reports, reprints, page charges, or other journal costs (except costs for prior or early publication); necessary illustrations, cleanup, documentation, storage, and indexing of data and databases; and development, documentation, and debugging of software.

G) Consultant Costs: Applicants normally are expected to utilize the services of their own staff to the maximum extent possible in managing and performing the project's effort. If the need for consultant services is anticipated, the nature of proposed consultant services should be justified and included in the technical proposal narrative. The cost proposal should include the names of consultant(s), primary organizational affiliation,

each individual's expertise, daily compensation rate, number of days of expected service, and estimated travel and per diem costs.

H) Computer Services: The cost of computer services, including computer-based retrieval of scientific, technical, and educational information, may be requested. A justification/explanation based on the established computer service rates at the proposing organization should be included. The budget also may request costs, which must be shown to be reasonable, for leasing automatic data processing equipment. The purchase of computers or associated hardware and software should be requested as items of equipment.

I) Subawards (subcontracts or subgrants): A precise description of services or materials that are to be awarded by a subaward must be provided. For subawards totaling $10,000.00 or more, provide the following specific information:

(1) A clear description of the work to be performed

(2) If known, the identification of the proposed subawardee and an explanation of why and how the subawardee was selected or will be selected

(3) The identification of the type of award to be used (cost reimbursement, fixed price, etc.)

(4) Whether or not the award will be competitive and, if noncompetitive, rationale to justify the absence of competition; and

(5) A detailed cost summary.

J) Other Direct Costs: Itemize and provide the basis for proposed costs for other anticipated direct costs such as communications, transportation, insurance, and rental of equipment other than computer related items. Unusual or expensive items shall be fully explained and justified.

K) Profit/Fee: Profit/fee is not allowed for the recipient of an assistance instrument (grant or cooperative agreement) or a subawardee/subrecipient under an assistance instrument. A subaward is an award of financial assistance in the form of money, or property in lieu of money, made under a DoD grant or cooperative agreement by a recipient to an eligible subrecipient. The term includes financial assistance for substantive program performance by the subrecipient of a portion of the program for which the DoD grant or cooperative agreement was made.

L) Small Business Subcontracting Plan: Small Business Subcontracting Plan requirements do not apply to assistance instruments.

M) Contract Facilities Capital Cost Of Money: If cost of money is proposed, a completed Contract Facilities Capital Cost of Money (FCCM) (DD Form 1861) is required.

Unsuccessful Proposal Disposition: Unless noted in an Applicant's proposal to the contrary, unsuccessful proposals will be retained for six (6) months from declination and then properly destroyed.

3. OTHER TRANSACTION Proposals:

Proposals for Other Transactions (either research or prototype) shall include the same level of detail in the Cost section as stated in the previous two sections. In addition, for proposals for Other Transactions for Prototypes, the Cost section should clearly outline what the milestone deliverables will be for the prototype with a detailed breakdown of the cost associated with each milestone. In the event the Applicant believes the proposal is more suitable for an expenditure-based OT in accordance with the definitions in the OT Guide referenced in this BAA, the proposal should include a discussion as to why fixed payable milestones are not feasible due to the research approach and deliverables.

4. <u>Army Contract Writing System (ACWS) Transition Information for Offerors</u>

a. The Army Contracting Enterprise (ACE) is in the process of deploying new solicitation and contract writing software to Army contracting offices worldwide. Known as the Army Contract Writing System (ACWS), this modern software suite will soon replace most existing Army contract writing systems, including the system used to create and release this BAA.

b. During this transition period, Offerors are hereby advised:

1. The Contracting Office may use any combination of contract writing systems to create and release documents related to this BAA (e.g. BAA amendments and awards, if any). Due to this:

i. This BAA may contain different offer submission instructions than other BAA released by the same Contracting Office (e.g. requiring offer submission via the PIEE Solicitation Module vs. e-mail). Offerors should review all offer submission instructions contained in the BAA documents and direct any questions or concerns to the Contracting Officer, Grants Officer, or Agreements Officer.

ii. If the Contracting Office switches contract writing systems prior to award, documents you receive from the Contracting Officer, Grants Officer, or Agreements Officer or view on SAM.gov or other forums may appear noticeably different than the initial BAA or previous BAA or awards from the same Contracting Office. This is normal and expected.

iii. A change between contract writing systems may cause important information concerning BAA response (amendments) or accepted terms (awards) to take on different formatting or appear in different parts of later documents issued. Offerors shall review all documents carefully to locate this important information and direct any questions or concerns to the Contracting Officer, Grants Officer, or Agreements Officer.

2. The Government does not intend to use the transition between contract writing systems to effect any changes to BAA or award terms and conditions without accompanying document narratives explicitly stating such changes are deliberate and desired. While the Contracting Officer, Grants Officer, or Agreements Officer will take care to minimize or eliminate any inadvertent changes when adapting to the new contract writing software, you, as the Offeror, may still be the first to spot such errors. Therefore, Offerors shall:

i. Notify the Contracting Officer, Grants Officer, or Agreements Officer immediately if any observed changes, removals, or additions affect your award eligibility, violate, or alter existing quote/proposal terms, or could affect Contract, Grants, Cooperative Agreements, OTA performance post-award.

ii. Take special care to ensure all fill-in Clauses are populated and remain populated across documents received from the Contracting Officer, Grants Officer, or Agreements Officer throughout the Award process.

iii. Contact the Contracting Officer, Grants Officer, or Agreements Officer listed on the award for guidance if you notice or suspect any inadvertent change has occurred between document issuances.

3. The Contracting Officer, Grants Officer, or Agreements Officer will correct problems affecting award documents (if any) via bilateral modification, at no cost to the Contractor. Any such modification will reconcile the award with the latest version of this BAA reflecting deliberate action by the Contracting Officer, Grants Officer, or Agreements Officer (e.g. the first issuance if no amendments, or the latest amendment with accompanying narratives), inclusive of any documented pre-award negotiations or accepted supplemental offer terms.

4. In the unlikely event a network disruption, contract writing system error, or financial system error threatens timely award of the requirement set forth in this BAA, the Contracting Officer, Grants Officer, or Agreements Officer:

i. May elect to use alternative mechanisms to obligate funds and allow work or deliveries to legally begin to the benefit of, and with legal protection for, both parties.

ii. Will incorporate the latest version of this BAA into such mechanisms to serve as a framework for contract, grants, cooperative agreements, and OTA execution until any such system problems are resolved.

iii. Will ensure any action taken does not conflict with the stated offer evaluation and award methodology of this requirement.

iv. Will issue a complete, properly formatted award accurately reflecting this requirement and all applicable terms and conditions once systems return to normal.

(End of Section)

APPENDIX 1: TABLE OF ACRONYMS

ACC (APG) RTP –	Army Contracting Command (Aberdeen Proving Ground) Research Triangle Park Division
ACWS –	Army Contract Writing System
AFARS –	Army Federal Acquisition Regulation Supplement AOR – Authorized Organization Representative
AR	Army Regulation
ARI –	Army Research Institute for the Behavioral and Social Sciences
ARL –	Army Research Laboratory
BAA –	Broad Agency Announcement
CAGE –	Commercial and Government Entity
CFDA–	Catalogue of Federal Domestic Assistance
CFR –	Code of Federal Regulations
COM –	Cost of Money
CONUS –	Continental United States
CPFF –	Cost Plus Fixed Fee
CUI –	Controlled Unclassified Information
D&B –	Dun and Bradstreet, Inc.
DBA –	Doing Business Name
DCAA –	Defense Contract Audit Agency
DCMA –	Defense Contract Management Agency
DFARS –	Defense Federal Acquisition Regulation Supplement
DL –	Direct Labor
DLSC –	Defense Logistics Service Center
DoD –	Department of Defense
DoDGARS –	Department of Defense Grant and Agreement Regulations
DoDI –	Department of Defense Instruction
DUNS –	Data Universal Numbering System
EDWOSB –	Economically Disadvantaged, Woman-Owned Small Business
F&A –	Facilities and Administrative
FAPIIS –	Federal Awardee Performance and Integrity Information System
FAR –	Federal Acquisition Regulation
FCCM –	Facilities Capital Cost of Money
FFP –	Firm Fixed Price

FFRDC –	Federally Funded Research and Development
FOIA –	Freedom of Information Act
FSC –	Federal Service Code
FY –	Fiscal Year
G&A –	General and Administrative
GFD –	Government Furnished Data
GFE –	Government Furnished Equipment
GFI –	Government Furnished Information
GFP –	Government Furnished Property
GSA –	General Services Administration
HBCU/MI –	Historically Black College or University/Minority Serving Institution
HRPO –	Human Research Protection Official
HSR –	Human Subjects Research
HUBZone –	Historically Underutilized Business Zone
ID –	Identification
IR&D –	Independent Research and Development
IRB –	Institutional Review Board
ITAR –	International Traffic in Arms Regulation
MIPR –	Military Interdepartmental Purchase Request
NDAA	National Defense Authorization Act
NIH-	National Institutes of Health
ODC –	Other Direct Cost
OMB –	Office of Management and Budget
OPSEC –	Operations Security
OT –	Other Transaction
OTA –	Other Transaction Agreement
PAM –	Pamphlet
PDF –	Portable Document Format
PI –	Principal Investigator
POC –	Point of Contact
PWS –	Performance Work Statement
R&D –	Research & Development
R&R –	Research and Related
SAM –	System for Award Management
SDB –	Small Disadvantaged Business
SDVOSB -	Service-Disabled Veteran-Owned Small Business
SF –	Standard Form
TDL –	Total Direct Labor
TIN –	Taxpayer Identification Number
TPOC –	Technical Point of Contact
U.S. –	United States
U.S.C. –	United States Code
UIC –	Unit Identification Code
UEI –	Unique Entity Identifier

USDA/APHIS –	United States Department of Agriculture/Animal and Plant Health Inspection Service
USML –	United States Munition List
VOSB –	Veteran-Owned Small Business
WOSB –	Woman-Owned Small Business
XML –	Extensible Markup Language

(End Section)

APPENDIX 2: AMENDMENTS

W911NF-23-S-0010-0001 (Amendment 0001) posted on 28 July 2023
W911NF-23-S-0010-0002 (Amendment 0002) posted on 13 August 2024

NOTE: Amendments may be issued more frequently at the discretion of the Government.