Broad Agency Announcement

Biological Technologies

BIOLOGICAL TECHNOLOGIES OFFICE

HR001126S0003

October 01, 2025

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

OVERVIEW INFORMATION:

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Biological Technologies Office
- **Funding Opportunity Title** – Biological Technologies
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001126S0003
- **Assistance Listing Number:** 12.910
- **Dates/Time - All Times are Eastern Time Zone (ET)**
    - Posting Date: October 01, 2025
    - Proposal Abstract Due Date: Abstracts may be submitted on a rolling basis until September 30, 2026, at 4:00 PM
    - Proposal Due Date: Proposals may be submitted on a rolling basis until September 30, 2026, at 4:00 PM
- **Submission Requirements – An Abstract must be submitted and a notification to submit a Proposal must be received, prior to any Proposal submission. A proposal will not be reviewed if it is submitted without:**
  1. Submitting an abstract and 2. Receiving a notification to submit a Proposal.
- **Anticipated individual awards** – Multiple awards are anticipated.

Types of instruments that may be awarded – Procurement Contract, Cooperative Agreement, Other Transaction Agreement for Research (OT-R), or Other Transaction Agreement for Prototype (OT-P).

- **NAICS Code**: 541714
- **Agency contact**

  Points of Contact
    - The BAA Coordinator for this effort may be reached at:
    - BTOBAA2026@darpa.mil
    - DARPA/BTO
    - ATTN: HR001126S0003
    - 675 North Randolph Street
    - Arlington, VA 22203-2114

SECTION I: FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency (DARPA) Biological Technologies Office (BTO) is soliciting proposals that leverage biological properties and processes to revolutionize our ability to protect the nation's warfighters. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

BTO harnesses advances in artificial intelligence (AI) and machine learning (ML) to create new opportunities for transformative science across the biological spectrum. Warfighter health and well-being are critical to mission success. BTO develops diagnostic and assessment systems to identify chemical and biological threats, medical countermeasures, and novel approaches to tactical care and warfighter performance and recovery on and off the battlefield. BTO also leverages biological processes, technologies, and manufacturing opportunities to create resilient infrastructures and supply chains, protective solutions, and innovative sensors to ensure mission success in any location.

BTO is interested in submissions related to the following topic areas:

General Topics

- Biological and/or chemical technology topic areas that fit the national security scope of BTO's mission.
- Research into market opportunities, constraints, and communities affecting financing and commercialization of bioindustrial and biomedical technologies.

Machine Learning (ML) and Artificial Intelligence (AI)

- Developing and advancing our understanding of the impact and principles underlying biological data generation, assessment and incorporation into the biological foundation models, or mixed-mode foundation models. This includes taking theoretical approaches as well as understanding the scaling laws of these data for various types of models.
- Advancing the capabilities of broad or narrow biological and/or chemical or mixed-mode foundation models far beyond the state of the art.
- Developing and proving non-experimental models or hybrid experimental/non-experimental assessment strategies for biological foundation model assessment.
- Exponentially accelerating the time scale of biological system simulation from the subcellular through multicellular, organismal and environmental systems, including for threat prediction, impact assessment, and attribution modeling.
- Developing ML and AI-enabled technologies to improve the accuracy, precision, and efficiency of warfighter decision-making in complex and dynamic environments (e.g., on and off the battlefield), including for real-time threat assessment and response planning.
- The development of virtual testbeds, digital twins, and/or synthetic data to accelerate or improve the predictive modeling of human performance.

Combat Casualty Care

- Developing novel diagnostic, prophylactic, and therapeutic approaches for warfighter injury that can be provided even in austere settings and extreme conditions.

- Developing capabilities and technologies that enhance the ability of non-skilled service members to perform essential medical tasks closer to the point of injury, reducing dependence on highly trained personnel through assistive devices.
- Developing decision support tools that algorithmically optimize the alignment of medical requirements and resources in complex, data-constrained mass casualty scenarios to enhance near-real-time situational awareness and command and control (C2) planning and execution.
- Development of capabilities and technologies that enhance the ability of non-skilled service members to perform essential medical tasks closer to the point of injury, reducing dependence on highly trained personnel through assistive devices.

Human Performance

- Understanding and improving treatment of and resilience in neurological health, transformative neural processing, fatigue, cognition, and optimized human performance and teaming, including in extreme stress conditions.
- Discovering interventions that utilize biotechnology, biochemistry, molecular biology, microbiology, neuroscience, psychology, cognitive science, social and behavioral science, and related disciplines to assess and optimize human performance and teaming.
- Developing and leveraging technologies to advance continuous or near-continuous monitoring of physiology to elucidate mechanisms of human readiness, cognitive status, and resilience.
- Understanding and improving interfaces between the biological and physical world to enable seamless biohybrid systems and devices.
- Developing approaches to enhance physiological resilience, performance, and survivability in extreme conditions (e.g., cold weather, extreme heat, high altitude). Identifying technologies and tactics to increase or accelerate the impact of training regimens while reducing the risk of injury.

Materials, Sensors, Processing

- Designing novel materials, sensors, or processes that mimic or are inspired by biological systems.
- Creating tools such as foundation models or prediction engines to understand the underlying rules defining biomolecular and biomaterial or hybrid biotic/abiotic material structure/function properties (individual properties or groups of properties) in order to predict desired outcomes for novel material development. Importantly, these predictions should hold from the molecular scale to the macro scale.
- Developing new computational and experimental tools and predictive capabilities for engineering of biological systems, such as cells, tissues, organs, organisms, and complex communities, to both develop new products and functional systems, as well as to gain new insights into underlying mechanisms.
- Developing technologies to leverage biological systems and enhance the acquisition and maintenance of critical and strategic organic and inorganic materials.

- Understanding and leveraging complex biological systems into underlying functional rules and processes to provide models that govern interactions of biological systems from biofilms to organs or ecosystems.
- Developing new platform technologies that integrate, automate, and miniaturize the collection, processing, and analysis via direct or indirect interrogation of biological and chemical samples.
- Developing hybrid biological/engineered systems that integrate biological organisms, components, biologically-encoded circuitry, biogenic materials, or exploit biological phenomena to surpass capabilities of abiotic equivalents.
- Developing novel biological sensor platforms with reduced size, weight, and power requirements of equivalent, electro-optical or electro-mechanical systems with orders of magnitude increase in equivalent performance.

Agricultural and Environmental

- Understanding and addressing emerging threats to global food, water, and ecosystem stability, including developing scalable countermeasures and controlled propagation of targeted functions for regional and global implementation in soil and other environments.
- Advancing insights into non-human biology (e.g., microbes, insects, plants, marine life) and their interactions with the environment to inform tactical and strategic advantages, including concealment, camouflage, bio-inorganic capabilities, and operations in extreme environments.
- Developing bio-based, materials science, synthetic biology, and/or ecological innovations to support agricultural security, enhance ecosystem restoration, and post-disaster recovery in terrestrial, marine, and post-disaster environments.
- Creating and validating computational models and experimental tools to understand and predict collective behaviors of biological systems, from cells to ecosystems, including population and ecosystem dynamics, to accelerate innovation and uncover mechanisms for tuning biological processes, and preserving equilibrium.
- Creating models and tools to exceed the natural pace of biological processes, from molecular genetics and metabolomics to microbial evolution and community dynamics and create informed approaches for effective deployment of biological innovations from lab to field.

Security, Safety, and Surveillance

- Developing new technologies and approaches to ensure the biosafety and biosecurity of biological hardware and data. Ensuring the safety and security of AI technologies that accelerate biological research and development processes.
- Developing innovative technologies to detect, characterize, treat, prevent, and forecast the effects of novel, engineered, or natural emerging pathogens that have the potential to cause significant health, economic, and social burdens, to prevent their spread and understanding of their origin.

- Developing ML, AI approaches, and advanced data analytics for the rapid analysis, interpretation, identification, attribution, origin tracing, of large-scale, disparate biological and environmental surveillance data streams, enabling anomaly detection, pattern recognition, scalable detection, and predictive analytics to identify emerging threats or anomalous events and provide early warning and anticipatory action against natural or manmade biological threats.
- Advancing technologies for determination and attribution along with data provenance analysis at chemical, isotopic, genetic, and community structure levels.
- Develop novel sensing, surveillance, and processing technologies (including in-situ and remote modalities) to detect, identify, monitor, and analyze weak biological signals of emerging pathogens (novel, engineered, or natural) at all scales, including their secondary effects on the environment.
- Developing new technologies and data analytics to support next-generation surveillance, detection, identification, and attribution of human and agricultural pathogens at scale and in near real-time.
- Developing novel in-situ or remote sensing and surveillance technologies at the global, regional, and local scale that detect and identify novel, engineered, and/or natural merging pathogens to prevent their spread or understand their origin.

Biomedical and Biodefense

- Developing new technologies for rapid, automated, and resilient manufacturing, delivery, and distribution of critical molecules for applications in therapeutics, chemical and biological defense.
- Developing new technologies to support next-generation cellular therapeutic applications.
- Developing new platform technologies for targeted, effective, spatiotemporally controlled delivery of large and small molecules and biologics.
- Leveraging biotechnology to create new platform solutions that combat antimicrobial resistance, generate novel drug and cell-based therapeutics, and treat warfighter injury and illness.

SECTION II: EVALUATION CRITERIA

Abstracts and Proposals will be evaluated using the following criteria listed in **descending order of importance**. Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; and Cost and Schedule Realism. **An Abstract must be submitted and a notification to submit a Proposal must be received, prior to any Proposal submission. A proposal will not be reviewed if it is submitted without: 1. Submitting an abstract and 2. Receiving a notification to submit a Proposal.**

- **Overall Scientific and Technical Merit**: The proposed technical approach is innovative, feasible, achievable, and complete. The proposed technical team has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible. The proposer's prior experience in similar efforts clearly demonstrates an ability to design and execute projects that meet the proposed technical performance within the proposed budget and schedule.
- **Potential Contribution and Relevance to the DARPA Mission**: The potential contributions of the proposed effort bolster the national security technology base and support DARPA's mission to make pivotal early technology investments that create or prevent technological surprise.
- **Cost Realism and Schedule**: The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed sub-awardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates). It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. DARPA recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies.

Unless otherwise specified in this announcement, for additional information on how DARPA reviews and evaluates proposals through the Scientific Review Process, please visit: Proposer Instructions: General Terms and Conditions.

SECTION III: SUBMISSION INFORMATION

- This announcement allows for multiple award instrument types to be awarded to include Procurement Contracts, Cooperative Agreements, and Other Transaction Agreements. Some award instrument types have specific cost-sharing requirements. The following websites are incorporated by reference and contain additional information regarding overall proposer instructions, general terms and conditions, and each specific award instrument type.
- This announcement allows for an accelerated award option for selected full proposals that do not exceed $2,000,000 for proposers who have agreed to prescribed stipulations as part of their full proposal submissions. Awards for such proposals would be made within 30 days of the selection notification. Please see Attachments G through K for details.

  Proposers must review the following links prior to submitting an abstract or proposal:

  - **Proposer Instructions: General Terms and Conditions**: https://www.darpa.mil/work-with-us/proposer-instructions
  - **Procurement Contracts**: https://www.darpa.mil/work-with-us/procurement-contracts
  - **Cooperative Agreements**: https://www.darpa.mil/work-with-us/grant-cooperative-agreements
  - **Other Transactions**: https://www.darpa.mil/work-with-us/other-transaction-agreements

- Proposal abstracts and full proposals that are not found to be applicable to HR001126S0003 as defined above may be deemed non-conforming and removed from consideration. All abstracts and proposals must provide sufficient information to assess the validity/feasibility of their claims as well as comply with the requirements outlined herein for submission formatting, content, and transmission to DARPA. Abstracts and full proposals that fail to do so may be deemed non-conforming and removed from consideration.

- This announcement contains a **required** abstract phase. Proposers must submit an abstract in response to this solicitation to **be invited to submit a proposal**. Abstracts will be reviewed on a rolling basis and can be submitted until September 30, 2026 at 4:00 p.m. as stated in the Overview section. DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. If DARPA does not invite the proposer to submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Proposers should note that an invitation to submit a full proposal is not a guarantee that a proposal based on the abstract will ultimately be selected for award negotiation. Regardless of instrument type desired, all abstracts must be submitted through the Broad Agency Announcement Tool (BAAT). For instructions on how to submit to BAAT, visit the "Unclassified Submission Instructions" section at Proposer Instructions: General Terms and Conditions. Additional instructions for abstract submission are contained within **Attachment A**.

- Full proposals can be submitted through September 30, 2026, at 4:00 PM as stated in the Overview section.

- **Attachments B, C, and D** contain specific instructions and templates and constitute a full proposal submission for proposers requesting either a Procurement Contract or Other Transaction (OT). Proposers requesting Procurement Contracts or OTs must submit proposals through the Broad Agency Announcement Tool (BAAT).

- **Attachments B and D** contain specific instructions and templates and constitute a full proposal submission for proposers requesting a Cooperative Agreement. Proposers requesting a Cooperative Agreement must also complete the SF424 (R&R) Budget form through Grants.gov. Proposers requesting a Cooperative Agreement must submit proposals through Grants.gov.

- This announcement allows for an accelerated award option for selected full proposals that do not exceed $2,000,000 for proposers who have agreed to prescribed stipulations as part of their full proposal submissions. Awards for such proposals would be made within 30 days of the selection notification. Please see Attachments H through L for details. Attachment G (and Attachment K or L if requesting an OT) must be included in the proposal submission to receive this type of award. Proposers requesting this accelerated award option must submit proposals through the Broad Agency Announcement Tool.

- **BAA Attachments**:
  - **(required for ALL abstract submissions and prior to ANY proposal submission) Attachment A**: Abstract Instructions and Template
  - **(required for ALL proposal submissions) Attachment B**: Proposal Instructions and Volume I Template (Technical and Management)
  - **(required for Procurement Contract or OT-P proposal submissions) Attachment C**: Proposal Instructions and Volume II Template (Cost)
  - **(required for ALL proposal submissions) Attachment D**: Streamlined Cost Proposal Spreadsheet
  - **(reference) Attachment E**: Classified Submission Instructions
  - **(reference) Attachment F:** CUI Guide
  - **(required for ALL accelerated award proposal submissions) Attachment G:** Accelerated Award Option Election and Attestation Form
  - **(reference) Attachment H:** Accelerated Contract Award Option – Model Contract (Large Business)
  - **(reference) Attachment I:** Accelerated Contract Award Option – Model Contract (Small Business)
  - **(reference) Attachment J:** Accelerated Contract Award Option – Baseline Model Contract Addendum: Additional Circumstance-Driven Clauses
  - **(required for accelerated OT-P proposal submissions) Attachment K:** Accelerated Contract Award Option – Model OT Agreement for Prototype
  - **(required for accelerated OT-R proposal submissions) Attachment L:** Accelerated Contract Award Option – Model OT Agreement for Research
  - **(reference) Attachment M:** Model Cooperative Agreement

SECTION IV: SPECIAL CONSIDERATIONS

- This announcement, stated attachments, and websites incorporated by reference constitute the entire solicitation. In the event of a discrepancy between the announcement, attachments, or websites, the announcement takes precedence.
- In conjunction with this announcement, BTO intends to publish Special Notices (SNs) in support of targeted studies associated with the above-listed topic areas. Proposal Abstracts and Full Proposals submitted in response to these SNs will be evaluated and selected in accordance with Section II of this solicitation.
- Instructions for classified submissions are contained within Attachment E: Classified Submission Requirements, Instructions and Procedures. For a full proposal that includes both classified and unclassified information, the proposal may be separated into an unclassified and a classified portion. The proposal should use the unclassified portion to the maximum extent practicable. Instructions regarding a combined classification submission is contained within Attachment E - Submission Requirements, Instructions and Procedures.
- This program is subject to Attachment F: BTO's General Controlled Unclassified Information (CUI) Guide signed FEB 2025. All individuals accessing CUI agree to protect CUI in accordance with DoD Instruction 5200.48 CONTROLLED UNCLASSIFIED INFORMATION (CUI) and NIST Special Publication 800-171 Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations.
- All responsible sources capable of satisfying the Government's needs, including both U.S. and non-U.S. sources, may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities, Small Businesses, Small Disadvantaged Businesses and Minority Institutions are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.
- Federally Funded Research and Development Centers (FFRDC), University Affiliated Research Centers (UARCs), and Government Entities to include National Laboratories are not eligible to propose to this solicitation.
- As of the date of publication of this solicitation, the Government cannot identify whether the work under this solicitation may be considered fundamental research and may award both fundamental and non-fundamental research. For additional information on fundamental research, please visit Proposer Instructions: General Terms and Conditions.
- Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-

fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at http://www.darpa.mil/work-with-us/additional-baa.

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

- DARPA's Fundamental Research Risk-Based Security Review Process (formerly CFIP) is an adaptive risk management security program designed to help protect the critical technology and performer intellectual property associated with DARPA's research projects by identifying the possible vectors of undue foreign influence. DARPA will create risk assessments of all proposed senior/key personnel selected for negotiation of a fundamental research grant or cooperative agreement award. The DARPA risk assessment process will be conducted separately from the DARPA scientific review process and adjudicated prior to final award. For additional information on this process, please visit Proposer Instructions: Grants/Cooperative Agreements.

- Proposals could potentially include Human Subjects Research (HSR) and/or Animal Use. Proposers that anticipate involving human subjects or animals in the proposed research must comply with the approval procedures detailed at https://www.darpa.mil/work-with-us/humanresearch to include providing the information specified therein as required for proposal submission.

Additional Resources Available to Proposers

- The APEX Accelerators program, formerly known as the Procurement Technical Assistance Program (PTAP), focuses on building strong, sustainable, and resilient U.S. supply chains by assisting a wide range of businesses that pursue and perform under contracts with the DoD, other federal agencies, state and local governments, and government prime contractors. See www.apexaccelerators.us/ for more information.

  APEX Accelerators helps businesses:
  o Complete registration with a wide range of databases necessary for them to participate in the government marketplace (e.g., SAM).
  o Identify which agencies and offices may need their products or services and how to connect with buying agencies and offices.
  o Determine whether they are ready for government opportunities and how to position themselves to succeed.
  o Navigate solicitations and potential funding opportunities.
  o Receive notifications of government contract opportunities on a regular basis.
  o Network with buying officers, prime contractors, and other businesses.
  o Resolve performance issues and prepare for audit, only if the service is needed, after receiving an award.

- Project Spectrum is a nonprofit effort funded by the DoD Office of Small Business Programs to help educate the Defense Industrial Base (DIB) on compliance. Project Spectrum is vendor-neutral and available to assist businesses with their cybersecurity and compliance needs. Their mission is to improve cybersecurity readiness, resilience, and compliance for small/medium-sized businesses and the federal manufacturing supply chain. Project Spectrum events and programs will enhance awareness of cybersecurity threats within the manufacturing, research and development, and knowledge-based services sectors of the industrial base. Project Spectrum will leverage strategic partnerships within and outside of the DoD to accelerate the overall cybersecurity compliance of the DIB.

  www.projectspectrum.io is a web portal that will provide resources such as individualized dashboards, a marketplace, and Pilot Program to help accelerate cybersecurity compliance.

- DARPAConnect offers free resources to potential performers to help them navigate DARPA, including "Understanding DARPA Award Vehicles and Solicitations", "Making the Most of Proposers Days", and "Tips for DARPA Proposal Success". Join DARPAConnect at www.DARPAConnect.us to leverage on-demand learning and networking resources.

- DARPA has streamlined our Broad Agency Announcements and is interested in your feedback on this new format. Please send any comments to DARPAsolicitations@darpa.mil.