

HTMDEC Applicants Day Questions

Note: Regarding all of the following questions and answers, the most current version of the Funding Opportunity Announcement (FOA) on grants.gov should be carefully reviewed as that is the controlling document.

Q&A # SUBMITTED PRIOR TO EVENT

- 1 **Could you please address the materials systems that would be most relevant to the call? In MURI calls, there is a limit on the number of PIs. Do you have some similar guidelines for the seedlings and future center proposals?**

The Opportunity is focused towards accelerated materials discovery, not particular materials systems. This includes all materials relevant for use in extreme conditions as described in section A.1 of the FOA. The FOA does specify one PI per seedling white paper, and permits only one white paper per PI as in section A.1.

- 2 **Has a final release [of the FOA] been published and if so, where is it posted? If not, can you anticipate when the official release will be available?**

The FOA is officially released on grants.gov under opportunity number W911NF-21-S-0013.

- 3 **Please clarify the due dates of the white paper. The current pre-release indicates these are due August 15 by 3pm (EST) but a final release has not been provided.**

The current version of the FOA on grants.gov indicates an September 10th 3pm EST due date for white paper submission. Please note this date is subject to change. Interested applicants should check grants.gov to ensure they remain aware of any amendments, to include changes to key dates in the FOA.

- 4 **Are we to submit a white paper only for the Seedling, or are we to submit the seedling white paper along with the Center white paper if we are planning to expand the Seedling award to a Center during year 1? There are 2 sections about the white paper to submit a seedling and/or a center on pages 5 and 15 of 31. However, the document indicates that if chosen, prior to the close of the seedling award, we may be eligible to submit a proposal for consideration of an option period up to 4 years. Page 29 of 31.**

White papers are required for Seedling awards only. Highly-rated white papers will then be invited to submit a proposal for consideration of a Seedling award. Successful Seedling projects will be eligible for invitation to submit a proposal for a Center in Year 2. There is a Center Development Targeted Thrust area.

- 5 **Is there any institutional share required?**

Cost sharing is not required.

- 6 **Any restrictions for the investigator who has on-going DOD projects or is a PI for other DOD proposals?**

Nothing in this FOA prohibits PIs who are actively working other DOD projects to respond to the Opportunity.

- 7 **This call has drawn a lot of interests, but it has created very confusing teaming situation. As the four topics are interconnected, it is not so clear how a group of people with a good potential of creating a center should team up in the seeding phase. Is it a good idea to talk about a common vision in each of the four seedlings? What if colleagues in other seedlings are not invited for the full proposal? Should the proposal aim for both hard and soft materials systems or the should the proposal be focused on one model system.**

White papers are required for Seedling awards only. Highly-rated white papers will then be invited to submit a proposal for consideration of a Seedling award. Successful Seedling projects will be eligible for invitation to submit a proposal for a Center in Year 2. There is a Center Development Targeted Thrust area.

- 8 **Can the university led teams have ARL researchers on the team as active participants?**

Government employees should not be listed in a white paper or invited proposal as an active participant. Government employees, to include ARL employees, will participate as part of the Government's collaboration under the seedling awards.

- 9 **Do you believe that we will be lacking specific resources in the next 5-7 years in producing these next-gen Soldier Protection devices due to the aggressive overreaching of our Near-Peer adversaries around the CENTCOM AOR, specifically Africa?**

Overmatch is our goal- this is not specific to any particular agent. High-throughput materials discovery will allow us to maintain the gap against near-peer adversaries, as explained in section A.1 of the FOA.

- 10 **Timeline of each stage of the process as well as possible clearances and or work restrictions required for the project**

Timelines are in the most up to date version of the FOA on grants.gov. Applicants must fulfill eligibility requirements in the FOA.

- 11 **What are the major metrics for the effort?**

Each Seedling proposes its own objectives in the Impact subsection of the TECHNICAL CONTENT section of the White Paper (D.2.b.ii in the FOA), and in the proposed effort section of the Proposal if invited to submit one. Achieving those underlying objectives becomes the metric for their efforts.

- 12 **Are biological route of material synthesis (e.g., use of engineered microorganisms for material production) also an option? Or is the synthesis method largely confined to non-biological route (e.g., chemical synthesis)?**

The Opportunity is focused towards accelerated materials discovery, not particular materials systems. This includes all materials relevant for use in extreme conditions as described in section A.1 of the FOA.

- 13 **Do we plan the teams while writing the proposal or during year 1? Is it required to have the teams ready to write the white paper?**

There are no requirements in the FOA for when the proposed team needs to be finalized, just that "A white paper must be submitted by a single applicant, naming one Principal Investigator (PI) from the applicant as the responsible technical point of contact, with any other participating organization to be identified as a sub-awardee."

- 14 **How many seed projects to be funded, at what funding level, by estimation?**

As stated in the FOA: "The Government anticipates that this funding opportunity will run for 10 years, with anticipated available funding of approximately \$5M per year. Actual duration and funding levels may vary slightly. Multiple awards are anticipated from year-to-year, with all Seedlings in Year 1, and a mix of Seedlings and Centers in subsequent years, for example, on a per annum basis:

Year 1: – 10-12 Seedlings (approx. \$500K per Seedling)

Year 2+: 2 - 3 Centers (approx. \$1.5M-\$2.0M per Center per year)

2 - 3 Seedlings (approx. \$200K per Seedling per year)

At least 1 Seedling dedicated to data handling and management (approx. \$200-500K per year) "

- 15 **What contract types are available for this opportunity?**

The FOA is only for cooperative agreements, as defined in 31 USC 6305.

- Vocabularies, semantics, ontologies are not defined a priori in a research context, but evolve to meet project demands; and even more so, the practical needs of data collection, curation, and analysis . What responsibilities will the individual centers have for maintaining internally consistent standard procedures, or is it envisaged that the data management team will craft a solution that works well, and equally well, for all Centers?
We expect the targeted thrust for data management recipient to develop a solution for all Centers.
- 16 **Is the bibliography/references cited to be included within the 8 page limit set for white papers for seedlings?**
Bibliography does not count against page limits detailed in the FOA.
- 17 **Based on the solicitation, it seems that there are two mechanisms for creating a center proposal: either a seedling ""graduates"" into a center after Year 1, or a workflow proposal is started as the kernel of a center. Is this interpretation correct?**
White papers are required for Seedling awards only. Highly-rated white papers will then be invited to submit a proposal for consideration of a Seedling award. Successful Seedling projects will be eligible for invitation to submit proposal for a Center in Year 2.
- 18 **SUBMITTED DURING EVENT**
- 19 **Will the webinar recording be made available?**
Yes, this will be posted on the HTMDEC website (<https://www.arl.army.mil/HTMDEC>).
- 20 **Will the slides be made available afterwards ?**
Yes, they will be posted on the HTMDEC website (<https://www.arl.army.mil/HTMDEC>).
- 21 **Are energetic materials (explosives and propellants) of your interest as well? Or, is the program mostly focused on armors and stuff?**
The Opportunity is focused towards accelerated materials discovery, not particular materials systems. This includes all materials relevant for use in extreme conditions as described in section A.1 of the FOA.
- 22 **Must PI, co-PIs, and/or other personnel be US Citizens? Are there any restrictions on citizenship/nationality?**
The FOA specifies in section C.1: "Eligible applicants under this FOA include institutions of higher education, nonprofit organizations, and for-profit organizations (i.e. large and small businesses) in the United States or its territories. This eligibility criteria applies to all applicant institutions involved in the substantive efforts of a proposal (e.g., the Recipient). Recipient institution personnel need not be US citizens, though this FOA offers fellowships as incentives to employ and train US-citizen graduate students and postdoctoral fellows."
- 23 **Can an established University run Center apply, or is this only meant to start new "Centers"?**
The FOA specifies in Section C.1: "Eligible applicants under this FOA include institutions of higher education, nonprofit organizations, and for-profit organizations (i.e. large and small businesses) in the United States or its territories. This eligibility criteria applies to all applicant institutions involved in the substantive efforts of a proposal (e.g., the Recipient)."
- 24 **To understand how our ideas might complement or fit with ARL, is it OK to reach out to ARL scientists to discuss our ideas and make sure there is overlap but not necessarily redundancy?**
No, there should be no discussions with ARL researchers since this FOA is an open competition. Likewise, government employees should not be listed in a white paper or invited proposal as an active participant. Government employees, to include ARL employees, will participate as part of the Government's collaboration under the seedling awards. There will be opportunities for collaboration with the Government after the programs are chosen.
- 25 **Can a PI participate into multiple seedling proposals?**
Section A.1 of the FOA: "Only one white paper is permitted per PI. An applicant may submit multiple white papers, but each white paper must identify a different PI to lead the effort. An applicant that submits multiple white papers with the same PI will only receive consideration of the white paper received with the earliest date/time stamp, with the remaining white papers discarded and not evaluated."
- 26 **Should the proposals address all 4 area of focus?**
The FOA limits a seedling white paper and proposal to a single targeted thrust area, or multiple general thrust areas, though applicants should consider seedling funding limits when writing white papers.
- 27 **For Thrust 1: Will the "data" also include material performance data collected from application in service in addition to literature?**
Data is to include all relevant data associated with this program, regardless of source (open literature, experimental results, testing, etc.).
- 28 **All these seedlings need data science and the challenges have commonalities. As a data science researcher, how should I decide which seedling to join?**
There is a Data Management Targetted Thrust area and a Data-driven Design General Thrust Area. If applying against General Thrust areas, multiple general thrusts are allowed per the FOA.
- 29 **Is the call interested in functional materials, such as materials for sensing and energy harvesting?**
The Opportunity is focused towards accelerated materials discovery, not particular materials systems. This includes all materials relevant for use in extreme conditions as described in section A.1 of the FOA.
- 30 **Is materials for radiation environment, i.e. radiation-hardened materials of interest?**
The Opportunity is focused towards accelerated materials discovery, not particular materials systems. This includes all materials relevant for use in extreme conditions as described in section A.1 of the FOA.
- 31 **Can we adjust team members after the white paper is invited for full proposal?**
There are no requirements in the FOA for when the proposed team needs to be finalized. The Principal Investigator from the white paper must remain the same, "with any other participating organization to be identified as a sub-awardee."
- 32 **The program is looking for new approaches, do you expect a specific Tool Maturity Level (TRL)?**
A specific TRL is not required per the FOA, but can be included as a part of a white paper/proposal.
- 33 **Can we adjust team members after the white paper is invited? assuming majority of the team members are the same as proposed in white paper.**
There are no requirements in the FOA for when the proposed team needs to be finalized. The Principal Investigator from the white paper must remain the same, "with any other participating organization to be identified as a sub-awardee."
- 34 **Does the program expect proposals about new methods for material design or a design project using new methods?**

Per the FOA: "The overarching goal of this program is to couple automation and machine learning techniques to material manufacturing and characterization to demonstrate new materials that withstand and perform under extreme conditions. The program will develop the necessary methodologies, models, algorithms, synthesis & processing techniques, and requisite characterization and testing to rapidly accelerate the discovery of novel materials through data-driven approaches. As such, it is expected the results of this program will be the above techniques as well as novel materials exhibiting unprecedented properties at the appropriate scales that have been developed utilizing all of the aforementioned tools which will be provided to DEVCOM-ARL for further analysis and testing."

35 **Do the 10-12 seedlings anticipated include both internal and external applicants?**

No, the 10-12 Seedlings mention in the FOA are only for extramural programs. The FOA does not cover any internal HTMDEC efforts.

36 **If there are no centers in year 1, would you please let me know why are the whitepapers requested for centers?**

We are not requesting proposals for Centers in Year 1, we are requesting white papers for Seedlings as described in section A.1 in the FOA. The competition for Centers will take place toward the latter stages of Year 1. The most successful Seedling programs will be invited to submit full proposals. This is where applicants will articulate their plans for a Center. Your Year 1 white paper can mention your vision for a Center, but the focus of that white paper should be on the work to be done in Year 1 as a Seedling.

37 **Can one white paper address two thrust areas or we must submit two separate WPs ?**

The FOA limits a seedling white paper to 1-2 targeted thrust area, or multiple general thrust areas. In addition, the FOA limits the number of white paper submissions to one per PI.

38 **Is it ok if institute A submits a seedling proposal in one thrust area, then institute B submits in another thrust area and then they combine later for a center?**

Yes, in fact this is one of the visions for the HTMDEC program, that successful Seedlings will coalesce into Centers.

39 **Are there any limitations on the number of seedling proposals in which a given PI can participate?**

Section A.1 of the FOA: "Only one white paper is permitted per PI. An applicant may submit multiple white papers, but each white paper must identify a different PI to lead the effort. An applicant that submits multiple white papers with the same PI will only receive consideration of the white paper received with the earliest date/time stamp, with the remaining white papers discarded and not evaluated."

40 **Can you be eligible for application if one of the co-PIs is from the Air Force Research Lab?**

Government employees should not be listed in a white paper or invited proposal as an active participant. Government employees, to include Air Force Research Laboratory employees, can participate as part of the Government's collaboration after funding is awarded.

41 **In Year 2, do all Center members need to be from the Year 1 Seedlings, or would we be able to add new members that we not part of previous Seedlings?**

New applicants can be added as sub-awardees during the Center proposal phase, and also in out years. The only requirement is that the Principal Investigator has led a successful Seedling program that was subsequently invited to submit a full proposal for a Center.

42 **I am confused by the thrust areas -- can we write a multi-institute proposal in the general area so all 4 thrust areas are addressed? If the goal of the proposal is to actually get a material output then focusing on all 4 areas would seem important**

The number of applicants on a seedling proposal is unlimited, so long as applicants meet the eligibility criterion in section C.1 of the FOA. The FOA limits a seedling white paper and proposal to a single targeted thrust area, or multiple general thrust areas, though applicants should consider seedling funding limits when writing white papers. There is a Center Development Targeted Thrust Area in FY22.

43 **I assume that the govt is encouraging submission of joint proposals with DEVCOM. If so, now that the FOA is released, are DEVCOM scientists allowed to talk to a non-govt applicant about teaming**

Government employees should not be listed in a white paper or invited proposal as an active participant. Government employees, to include ARL employees, may participate as part of the Government's collaboration after awards are made.

44 **Could you please clarify that whether center WPs are expected in FY22 proposal cycles, or are they anticipated in year 2? Do seedling WPs for FY22 need to include language/expectation on transition to centers?**

The competition for Centers will take place toward the latter stages of Year 1. The most successful Seedling programs will be invited to submit full proposals for a Center. Seedling recipients will articulate their plans for a Center in that later proposal. The focus of the year 1 seedling white paper should be on the work to be done in Year 1 as a Seedling.

45 **Can one submit a proposal with a focus on one thrust area but still touch upon other areas? Say focus on high-throughput augmented by ML and data Science.**

The FOA limits a seedling white paper and proposal to a single targeted thrust area, or multiple general thrust areas, though applicants should consider seedling funding limits when writing white papers.

46 **Does the WP for seedlings need to explain only year 1 work or five years of work?**

White paper for Year 1 seedling should only focus on the statement of work for Year 1, per the FOA.

47 **Do you see any role in HTMDEC for non-profit research centers that are not affiliated to a university? If so, what could that role be?**

Eligible applicants under this FOA include institutions of higher education, nonprofit organizations and for-profit organizations in the US or its territories. Note that the FOA also indicates we will award Cooperative Agreements subject to DOD R&D General T&Cs.

48 **what about DOE labs (LLNL, SNL?)- can they be a part of a seedling?**

Eligible applicants under this FOA include institutions of higher education, nonprofit organizations and for-profit organizations in the US or its territories. Note that the FOA also indicates we will award Cooperative Agreements subject to DOD R&D General T&Cs.

49 **In the seedling whitepaper and proposal, are you expecting to see a long term vision of the work + the actual work to be conducted in Year 1. Or only focus on what will be conducted in Year 1?**

White paper for Year 1 seedling should only focus on the statement of work for Year 1, per the FOA.

50 **If a single PI sends out a white paper prior to assembling a seedling team, what is the requirement on the minimal details that has to be included in terms of who will be on the team, say year two?**

There are no requirements in the FOA for when the proposed team needs to be finalized. The Principal Investigator from the white paper must remain the same, "with any other participating organization to be identified as a sub-awardee."

51 **How do you handle data registration across multiple measurement methods?**

Data registration is part of the Data Handling & Management Thrust Area as specified in the FOA.

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