FUNDING OPPORTUNITY ANNOUNCEMENT (FOA)
Announcement Number N00014-19-S-F010
FY2020 VANNEVAR BUSH FACULTY FELLOWSHIP
Amendment 0001

The purpose of this amendment is to make the following revisions:

1) Change page limits on the white paper PI Curriculum Vitae, Section II. D. 5. (f) to:

(f) White Paper CV: PI's Curriculum Vitae (CV) (no page limit) –Please include the parts of your CV most relevant to this project in the first two pages. The CV may include relevant experience, publications, and funding received in the area of interest, and any previous involvement and experiences with the DoD. List all previous DoD funding including project titles within the last eight years.

2) Change page limits on the full proposal PI Curriculum Vitae, Section II. D. 6. Part (5) Research and Related (R&R) Senior/Key Person Profile (Expanded) to:

- PI Curriculum Vitae (CV) (no page limit) – Please include the parts of your CV most relevant to this project in the first five pages.

3) To make available the July 2019 Vannevar Bush Faculty Fellowship webinar links and Q&A below:

We have posted the July 2019 Vannevar Bush Faculty Fellowship webinar presentation on the VBFF website https://basicresearch.defense.gov/Programs/Vannevar-Bush-Faculty-Fellowship/

Amended FOA page limits on the PI's Curriculum Vitae

White Paper CV: PI's Curriculum Vitae (CV) (no page limit) –Please include the parts of your CV most relevant to this project in the first two pages. The CV may include relevant experience, publications, and funding received in the area of interest, and any previous involvement and experiences with the DoD. List all previous DoD funding including project titles within the last eight years.

Full Proposal CV: PI's Curriculum Vitae (CV) (no page limit) – Please include the parts of your CV most relevant to this project in the first five pages. Follow instructions in the FOA for content.

White Paper Feedback:

White papers invited to propose for FY20 will be provided with evaluation feedback. Non-selected white papers will not be given feedback beyond our response notice unless requested before Dec 31, 2019

Questions Received during the VBFF Informational Webinar – Wednesday, 10 July 2019

Question: For engineering projects, is including the application of the proposed ideas for state-of-the-art applications (e.g., novel engineered materials for communications) considered as a negative?

> **Answer:** It is not necessary to specify an application. Furthermore, aiming a proposal towards specific applications could have detrimental aspects, since the program aims at broad potential impacts on future, often not clearly defined applications. On the other hand, you can be *inspired* by a specific application and share that with us, or base your vision on what you are already doing, but you need to be able to explain how the research would go beyond the specific application that helped frame your vision, or the specific field that you are already working on.

Question: Is it acceptable to have a major focus on a basic research topic, but also demonstrate a few applications of it in the last couple of years?

> **Answer:** This must be a basic research project, and it may be difficult to be make it readily applicable within three years. Although not impossible, it all depends on the type of work being proposed. The research must remain fundamental. If there are multiple applications that are causing you to think about how to solve a scientific problem, that is inspiration, and well within the scope. If you are targeting the research toward a known and specific application, then it would be difficult to understand what is the basic research content of your proposal.

Follow-up: I meant demonstrating an application in years 4 and 5 of the project by the last two years.
> **Answer:** If that is something that you believe is a feasible thing for you to be able to do, we will certainly evaluate it.

Question: Is proposing a collaboration with a DoD Lab for transitioning ideas to application encouraged?

> **Answer:** It is not encouraged, since this is basic science. Some DoD labs may provide a good opportunity for collaboration, but it should be demonstrated that they are the best collaborators for the project. Once you are selected as a fellow, there are other opportunities in place to collaborate with DoD labs that will be shared with you and your collaborators. A letter of recommendation from a laboratory or a group of researchers in DoD labs is also not necessary. You can certainly submit it as part of your package if you wish, but we are not looking for you to identify transitions at the time of proposal writing.

Question: Can you submit more than one white paper?

> **Answer:** No

Question: Can we use references from DoD personnel?

> **Answer:** Yes

Question: Can you resubmit a white paper from a previous year addressing reviewer comments?

> **Answer:** Yes. We should also point out that although a fraction of the fellows have been successfully selected the first time they submitted a white paper, many of them had to repeat the process. It is important that you take the provided feedback seriously, especially if you are starting down this

proposed path. We strongly encourage that even if you do not make it all the way through the proposal competition this year, please consider carefully the review comments and perhaps re-apply next year, since this seems to be a pathway for many of our fellows.

Question: Can you tell us more about what is expected in the one page Basic Research Statement?

Answer: In the white paper, we would like you to give us an idea of how you address these points: what research you can do, why you can do this research, what is your vision, why this is new, and how this can lead to new fields of research and future capabilities. It can be difficult to put all of it into a short amount of space on paper, but that is actually part of the challenge you have to solve. Also, refer to the FOA for instructions for the Basic Research Statement: Describe how the proposed research meets the DoD definition of basic research provided Section II. A. Program Description of the FOA. Describe the extraordinary outcomes that may be achieved as a result of the proposed project.

Question: N00014-19-S-F010 indicates that there is a 2-page limit on the CV. So, is there or not such limit?

Answer: The FOA N00014-19-S-F010 has been amended. There is no limit on the CV.

Question: Where do we list our History of Accomplishments?

Answer: The CV Section is perfect for that. There is no page limit.

Question: Are you open to applications from social scientists?

Answer: There is a specific program for social science called Minerva, which is also supported by the DoD Basic Research Office. This does not mean that you cannot submit a proposal on social science, but you would first have to look at the Minerva program and explain why your proposed research is different, or deeper, or would aim at something that is not being addressed by Minerva.

Question: Can you explain the role of collaborators? Are we allowed to fund their time or provide resources to support their portion of the work?

Answer: Collaborators are potentially included in order to make the project better and/or more likely to succeed. Although you may call upon collaborators to support the project, you must be able to *direct* the research. Collaborators can be supported by the program; foreign collaborators can also be included but cannot be compensated. However, be aware that if you have too many collaborators, this may no longer look like a single investigator project, so you must be judicious in your use of collaborators. Additionally, the budget justification must explain why particular individuals are being asked to be collaborators on this proposal.

Question: If the white paper is not accepted but DoD is interested in principle, will DoD inform the applicant or is it up to applicants to 'shop their idea around'?

Answer: There is feedback to the applicant, even if not selected, that can be useful to the investigator in furthering the idea elsewhere. Members of the DoD panel may also find interesting parts of your proposal, and could contact you and let you know that they want to hear more about

these. Nevertheless, it would still benefit you to shop the idea around if it is not selected, since there might be parts that will appeal to a particular program manager in one of the services.

Question: In my experience, I received no reviews on previous white papers.

Answer: If you were not invited to submit a full proposal, the response to your white paper submission indicated that you should contact the program officer and request the review comments; they are not sent automatically. Historically, about half of the applicants contacted the program office and half did not, so the latter did not receive feedback.

Question: Can we then still receive reviews from previous years?

Answer: It might be late for that, but we can attempt to. You are certainly welcomed to reach out and see what can be done. We had a change in the VBFF program managers and we may not have the ability to do that, depending on whether we still have the AcquTrak documentation. We can try, but we cannot make any promises.

Question: Understood that getting the reviews is not guaranteed but to which email should we send a request for prior white papers reviews?

Answer: You can send them to Jean-Luc Cambier and to David Stout and we will do the best we can to find them.

Question: Do you need a DoD program manager to champion your ideas?

Answer: No

Question: It says in the call that "VBFF funding is intended to allow exploration of potentially revolutionary ideas that do not necessarily have extensive preliminary data or previous attention in the literature." But would preliminary data be helpful in any way?

Answer: If there is data to support the development of the idea, then it would be helpful. At the same time, you should not expect the DoD to provide you with the data. In other words, the data should be available to you, and you know where to find it. This line in the FOA is especially important to applicants from the biological sciences, who are very familiar with proposing to other institutions like NIH. These can have a very different concept of the preliminary data that would be required in order for proposals to be competitive. This is to signal to you that the requirements are different here, i.e. a successful VBFF proposal does not necessarily look like a successful NIH R1 proposal. Here, you can be hypothesis-driven and make some inferences, and not necessarily have the data to back it up, if you can also demonstrate why you believe it should be so. This program gives you opportunities even if you don't have the data to back up your hypothesis, but you would like to try anyway, as long as you can convince us.

Question: What is required under Part (d) of the White Paper: "Identify anticipated human or animal subject research"?

Answer: You need to identify if you are going to use humans or animals in the research, because that requires special documentation and approval.

Question: Where should collaborators be specified in the white paper?

Answer: Collaborators need to be specified and justified in the proposal, but there is no such requirement for the white paper. The white paper already challenges you to express all you want to say in a limited space. You can certainly mention them if you believe that it is helpful in presenting your case, but it is not absolutely required.

Question: The LUCI program identifies a focus on VBFF recipient; can you explain the connection?

Answer: As mentioned in the briefing, the fellows will be strongly encouraged to interact with the DOD labs. One of the mechanisms for interaction is the LUCI program, which allows the DOD lab personnel to conduct research alongside the VBFF fellows, but now also with PIs and co-PIs of the MURI program (see https://basicresearch.defense.gov/Pilots/Laboratory-University-Collaboration-Initiative/). Note that LUCI is an internal DoD fellowship and is not available to those who are not civilian DOD researchers. The idea is for us to be able to provide funds to civilian DOD to fund early researchers to interact with those of you in academia. We have had many successful collaborations between DOD lab researchers and VBFF fellows and we would hope to continue that tradition with this new class.

Question: How important is it for the PI to have an established record or prior results in the topical area that they are proposing in? My understanding is that the VBFF provides an opportunity for a PI to explore a new area of interest even if they have not worked in that area. Is that still the case?

Answer: You need to convince us that you have a history of research excellence in your field. However, if you want to use the VBFF to pivot to a different field, you may not have this record of demonstrated capabilities in that particular field, in which case you must show us something in your past that makes us believe that we can take a chance on you. Some researchers have used the VBFF Fellowship to go into different areas and we continue to look for that kind of creativity; this is what makes VBFF specially important and unique to you in, by allowing you to do this pivot. At the same time, this should not be considered an opportunity to simply learn about a field you want to move into; you must show that you have given a lot of thought to this idea you are proposing, e.g. something that was in the back of your mind, and that you are the one able to do it. It may be high risk but that's OK.

Question: We need to be the first in exploring a research area - is proposing a project that relies on our own previous/current work less preferable to one where we propose a brand new idea that we have not addressed previously?

Answer: Exploration is key. However, there are many known problems which have resisted various attempts at solution, so you would not be the first to *look* at the problem, but you may have something new to contribute, that is really different from what has been done before; this is perfectly fine. If it is something you've been working on and thinking about, you may also see the VBFF as a large investment opportunity to either push the science along a certain direction, or change the trajectory; this is also perfectly acceptable, if in order to make it happen, you can explain why it needs the unfettered, curiosity driven investment that the VBFF provides. Hard problems may be looked at from different directions and gradual progress made over many years, but it could be successfully argued that the VBFF is the perfect program to go very deep and suddenly open up the field considerably.

Question: Should the white paper use a particular form, or just a documented formatted the way stated. Do the forms in grants.gov apply to the white paper or to the full proposal?

> **Answer:** The forms apply to the full proposal. White Paper restrictions, which are given in the FOA, consist of font size, number of pages, etc. Please refer to the FOA. The white paper is not submitted to grants.gov, but to the AcquTrak site, which requires registration. Hence, it should be in a PDF format.

Question: Is quick feedback on a white paper concept available (title or less than four sentences)? If so, who to submit to?

> **Answer:** There is no technical feedback on the whitepapers before the deadline for providing feedback and selection.

Question: If resubmitting a white paper from a previous year, should responses to reviewers be included within the same format?

> **Answer:** If the question is: do you have to, in a line by line, explain how you've taken into consideration the previous feedback? That is not necessary. Be aware that the review panels don't change drastically; although they are modified year to year, there will most likely always be people that have read your previous white paper, so if you resubmit the same concept, you need to address the issues that were raised. This shows that you took the feedback seriously and you were able to modify the white paper. It does not mean that you should say "identification to problem 1, answer to problem 1"; this is not a rebuttal to reviewers of a Scientific Journal article. The feedback is given to you to allow you to rethink, or to think in a different directions, and this must come out in the second version, without having it to be a point-by-point response.

Question: Do PIs have to be full professors to have enough track records?

> **Answer:** No, they only have to be tenured. We have had some very successful VBFF that have been associate professors, while some people use the VBFF deep into their career to switch directions. Both of those are very valuable members of the VBFF community and either one is perfectly legitimate.

Question: How much do we have to specify how the funds will be used (personnel, equipment, etc)?

> **Answer:** This is not asked for in the white paper; only a very brief overview of what you expect to spend. For the proposal, grants.gov has a very detailed budget form that needs to be addressed. Refer to Grants.gov instructions for all those details.

Question: Are applicants allowed or expected to interact with the program managers prior to submission of the white-paper or full proposal?

> **Answer:** Not at all. You can ask some questions, usually about the form, format, or other administrative questions; or ask which topic an idea may best belong to, but this is not critical, and you should use your best judgement. Asking for feedback on technical or scientific approach will not be responded to. However, once we provide you with feedback at the white paper selection stage, then you can ask for clarifications as you prepare for full proposals. It's a very different stage once you become a semi-finalist.

Question: It appears that none of the 95 previous winners belongs to an EPSCOR institution. Is it really worth for a scientist belonging to EPSCOR to submit a white paper?

Answer: Absolutely. We encourage submission from anyone, but there is no specific set-aside for any of those institutions. There is an upcoming DEPSCOR pilot program you may also consider, but for the VBFF, it makes no difference which state or which institution you come from; it is all about you and your idea. As an added note, even though we don't have people from EPSCOR states, DEPSCOR uses a similar calculation for states that do not get a lot of DoD funding, making them DEPSCOR eligible. We do have DEPSCOR states that have had VBFF winners.

Question: is your presentation document available to download?

Answer: We intend to post the presentation and the audio on the DOD Basic Research site. Then we will post the questions and answers as an amendment to the FOA.