



# Vannevar Bush Faculty Fellowship

**FY21 Webinar**  
**2:00 – 3:00 PM EDT**

Basic Research Office (BRO)  
OUSD(R&E) or Office of the Under Secretary  
of Defense (Research & Engineering)

Webinar | July 20, 2020



# Agenda & Webinar Etiquette

**2:00 – 2:05: Overview**

**2:05 – 2:10: Introductions from the team**

**2:10 – 2:30: Program Overview**

**2:30 – 2:50: Program Philosophy**

**2:50 – 3:00: Q&A**

- **This Webinar is recorded and will be uploaded to the DoD site at a later date.**
- **Mute your microphones during the webinar**
- **Hold questions till the Q&A secession**
- **For technical difficulties during the meeting, contact:**
  - **703-610-2040 or [cshelp@noblis.org](mailto:cshelp@noblis.org)**



# Vannevar Bush (1890-1974)



Director of Office of Scientific Research and Development (OSRD) during World War II. First Presidential Science Advisor. Spearheaded the creation of NSF. Professor and Dean of Engineering at MIT. Founded a large defense and electronics company. Author of "Science, The Endless Frontier." (1945)

Strong (and successful) advocate for basic science, as the cornerstone to national security, health, economic progress, as well as cultural progress.

“ [Basic research is] the pacemaker of technological progress". "New products and new processes do not appear full-grown...They are founded on new principles and new conceptions, which in turn are painstakingly developed by research in the purest realms of science.”

It is in this spirit that the Vannevar Bush Faculty Fellowship program is designed.



# Program Team

**Dr. Bindu Nair**  
**Director of Basic Research Office**

**Dr. Jean-Luc Cambier**  
**VBFF & LUCI Program Officer, Basic Research Office**  
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**Dr. Reginald G. Williams**  
**Program Manager for Office of Naval Research**

**Dr. Mike Finnin (ctr.)**  
**Scientific Advisor**  
**Institute for Defense Analyses**

**Dr. Ololade Fatunmbi (ctr.)**  
**Program Scientist**  
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# Program Announcement



## The FY21 VBFF Funding Opportunity Announcement (call for proposals) can be found:

1. On [www.grants.gov](http://www.grants.gov):

**Search for N00014-2--S-F006**

2. On the ONR website:

<https://www.onr.navy.mil/en/-/media/Files/Funding-Announcements/BAA/2020/N00014-20-S-F006>

3. On the registration website:

<https://acqupass.noblis.org/ApplyVBFF>



# Program Overview

- Established in 2008 as National Security Science and Engineering Faculty Fellowship (NSSEFF).
- Run out of STEM Development Office for several years, then moved to the Basic Research Office in OUSD(R&E) in ~2014.
- Program name was changed in 2016.
- Currently sponsored by Dr. Bindu Nair, Director for Basic Research Office, OUSD(R&E).
- ONR manages the grants. The ONR program manager is Dr. Reginald G. Williams.

**Largest single-investigator program in Department of Defense**



# Grant Information



- Tenured faculty and full time research staff at U.S. Ph.D.-granting educational institutions are eligible to apply
- Single-investigator research grants, although collaboration is encouraged
- US Citizens and Permanent Residents. Security clearance is not required to receive award
- Fellows are expected to participate in DoD activities
  - Workshops, lab visits, program reviews, host DoD visitors at their site, serve on advisory panels, send students to lab internships
- Approximately 10 Fellows selected each competition.



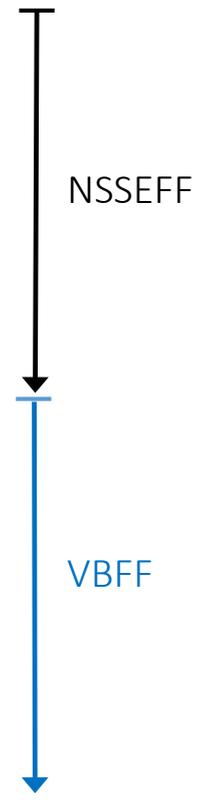
# Past Competitions

\*Open to all disciplines

Program pause →

\*\* Limited topic areas of importance to DoD.

Class	White papers	Fellows
2008*	358	8
2009	490	10
2010	678	11
2014**	132	10
2015	153	7
2016	185	15
2017	285	13
2018	265	11
2019	252	10
2020	238	8



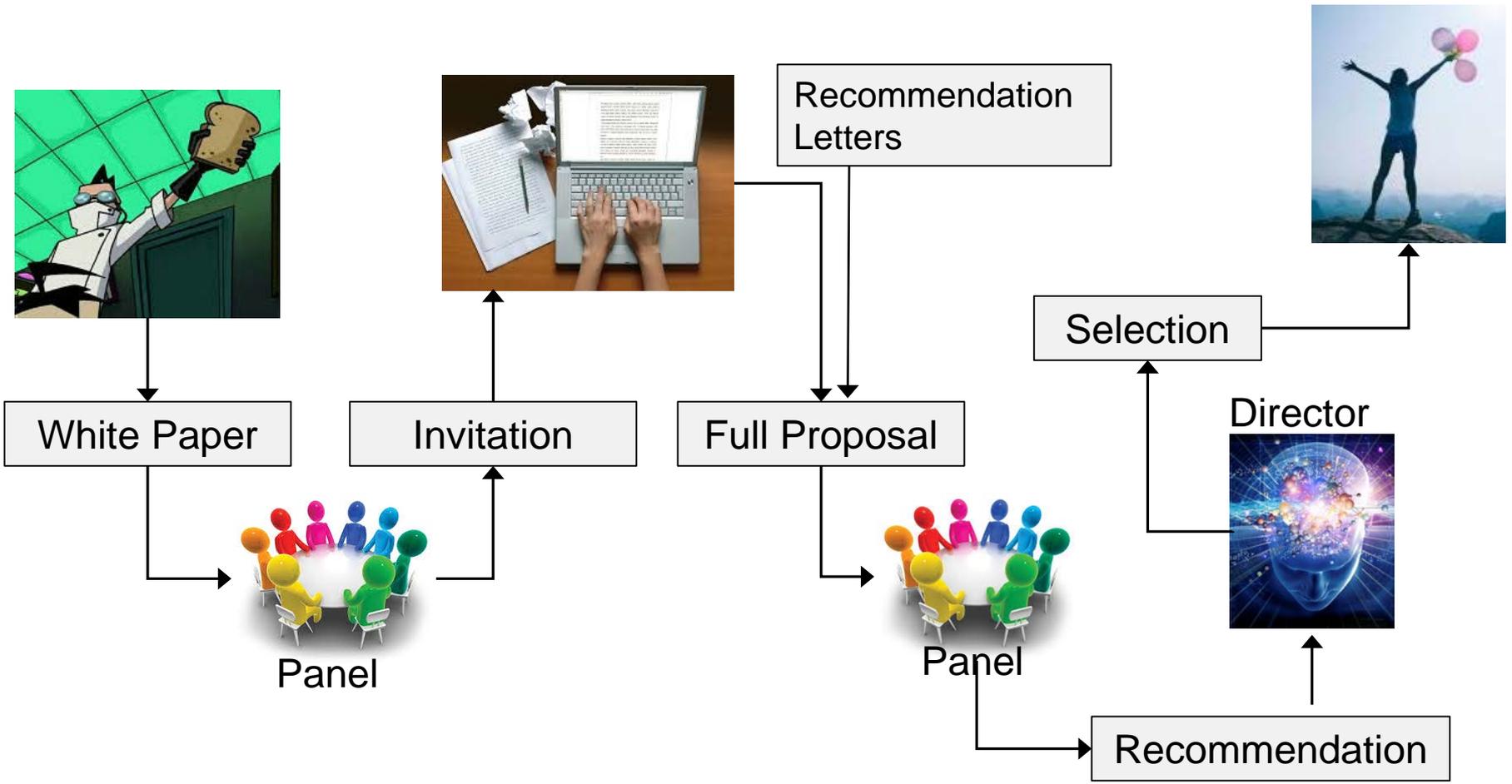


# Program Goals

- Support “Blue Sky” curiosity-driven fundamental research
- Educate and recruit next generation researchers to DoD’s research enterprise
- Develop and sustain career-long association between Fellows and DoD
- Expose the university researchers and their students to DoD’s current and future challenges



# Competition Process Overview





# Competition Process: Notes



- Panels consist of general technical experts in the DoD and other government agencies.
- Panels are built according to the research areas in the FOA, and consist of 5-8 people.
- In some cases, external reviewers are called for if panel chairs deem it desirable – those can be outside USG but sign NDA/COI
- Some proposals can be reviewed by more than one panel if they multi-disciplinary or at the intersection of two areas
- Invited full proposals must include CV, budget, 3 letters of recommendation (submitted separately) – see FOA for details
- Basic Research Office Director has final word on selection



# Current DoD Research Areas of Interest



- Applied Math and Computational Science
- Network Science, Artificial Intelligence
- Cognitive Neuroscience
- Fundamentals of Bio-Engineering
- Quantum Information Science
- Electronics, Photonics and Quantum Materials
- Engineered Materials and Structures
- Other research fields with high potential
- ....and (almost) everything in-between...

PI **must** select which of those areas the white paper and proposal are addressing.



# Research Areas of Interest: Notes



- **Q: My research can be considered in two topics. What then?**
- **A: You must select a primary area, and can select a secondary.**
  - Having more than one does not increase your chances
  - This is an indication to the panels, but the BRO has final say on which panels are reviewing submissions.
- **Q: Does my research need to fit the topic descriptions?**
- **A: No.** These are general descriptions of areas of interest, but they are not intended to provide any limitations on your creativity.
- **Q: Is there a panel for the “Other” category?**
- **A: Ideas submitted to the Other are reviewed by appropriate experts according to the research proposed. Some of these may be already in existing panels.**



# Criteria for Success



- **What kind of research is asked for?**

**“VBFF is oriented towards bold and ambitious “blue sky” research that may lead to extraordinary outcomes, such as revolutionizing entire disciplines, creating entirely new fields, or disrupting accepted theories and perspectives.”**

- NOT near-term problems or incremental research
- **What does DoD relevance mean?**
  - NOT for a specific mission, platform, system
  - Think long-term. Use your imagination (future warfare?)
  - Is DoD the right funding agency?
- **What qualifications and experience?**
  - No pre-existing links to DoD required
    - you must build them during the award if you don't have them
  - You must be one of the “best” in the field
    - CV, publications, recommendation letters



# Criteria for Success: Notes



- You must have an idea, and you must have a plan.
  - This includes a desire to work with the DoD, e.g. involve DoD Lab scientists, learn more about the DoD interests
  - This includes a plan to train a new generation of scientists in the field that you are creating or advancing
- This is a single-investigator program. No co-PIs! But...
  - **Q: Collaborators are allowed. What is the difference?**
    - A1: The ideas must originate from YOU
    - A2: YOU must plan and drive the research
    - A3: YOU must have most of the funds (if not all)



# More on Program Philosophy



- VBFF versus other DoD programs (SI grants, MURI, Center of Excellence, In-House Research, etc.)

Higher challenges, longer duration, more funding



Single-Investigator Grant (AFOSR, ONR, ARO): 3 yrs

Very broad set of scientific questions, topics.



MURI: Targeted topics, variable year-to-year

Scientific breakthrough, revolutionary advances, far-term benefits



DARPA: Specific technological problems, near-term benefits, milestones

Build next generation of academic researchers



In-House: Maintain/Improve existing Lab S&T workforce

Constant refresh, sampling from the best in Academia



UARC: Maintain excellence in specific, well-known field



# More on Program Philosophy



Q: Why shouldn't the services individually or jointly run the selection and execution of the program so they can ensure appropriate coordination/integration with their other programs?

A: The oversight of OSD enables the long term, exploratory nature of the research projects, and identifies department wide needs.



# Interactions between Fellows and DoD



- Fellows present their work at DoD-sponsored conferences.
- Fellows may serve on panels and participate in DoD program reviews.
- Fellows participate in workshops for OUSD(R&E)'s Basic Science Office to discuss future horizons in basic science.
- Fellows may collaborate with DoD researchers on joint projects.
- Trips for Fellows and their students to the 3 service labs (ARL, NRL, AFRL).
- Non-selectees – Occasionally, non-selectees are funded through regular OXR grants due to service specific interest in a modified version of some ideas.



# Important Dates for 2021 Competition



## Schedule of Events

Event	Date	Time
AcquTrak website opens for registration and submission	29 June 2020	
Deadline for Questions regarding White Paper and Documents*	07 August 2020	11:59 PM Eastern Time
AcquTrak website closes for registration	26 August 2020	11:59 PM Eastern Time
Deadline for submitting White Paper and supporting Documentation	28 August 2020	11:59 PM Eastern Time
Notification of Invitation for Full Proposal	23 October 2020*	
Deadline for Questions regarding Full Proposal and Documentation*	08 January 2021	11:59 PM Eastern Time
Deadline for submitting Full Proposal and supporting Documentation	15 January 2021	11:59 PM Eastern Time
Notification of Award	26 March 2021*	
Start Date of Grant	01 June – 30 September 2021*	

\* Approximate dates



# In Summary



The VBFF is about....



You

Challenge



Exploration

Vision

