

ORDE "KNOW YOUR AGENCY" SERIES: AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

**AIR FORCE OFFICE OF SCIENTIFIC RESEARCH
(AFOSR)** <http://www.wpafb.af.mil/afri/afosr/>

AGENCY OVERVIEW

AFOSR, a component of the Air Force Research Laboratory (AFRL), manages the US Air Force basic research enterprise. In Fiscal Year 2017, this basic research funding portfolio represented about 1,200 awards to over 550 academic institutions, non-profits, businesses, and other government agencies. While it is true that AFOSR supports basic research, the agency has a more specific focus – *meeting Air Force needs*. Thus, basic research at AFOSR can look more applied than researchers who have worked with the National Science Foundation or the National Institutes of Health are accustomed. Clearly stated communication with agency personnel concerning your proposed project's value to the Air Force is critical.

AFOSR ORGANIZATION

AFOSR consists of two Scientific Departments – Engineering and Information Science (RTA) and Physical and Biological Sciences (RTB). Specific Divisions and research interests are:

- 1) **Engineering and Complex Systems (RTA1)**
 - a) High-Speed Aerothermodynamics
 - b) Unsteady Aerodynamics and Turbulent Flow
 - c) Dynamic Materials and Interactions
 - d) GHz-THz Electronics
 - e) Energy, Combustion, and Non-Equilibrium Thermodynamics
 - f) Low Density Materials
 - g) Multi-Scale Structural Mechanics and Prognosis
 - h) Space Power and Propulsion
 - i) Test Sciences for Test and Evaluation
- 2) **Information and Networks (RTA2)**
 - a) Computational Cognition and Machine Intelligence
 - b) Computational Mathematics
 - c) Dynamics and Control
 - d) Dynamic Data Driven Applications Systems
 - e) Information Assurance and Cybersecurity
 - f) Optimization and Discrete Mathematics

- g) Science of Information, Computation, Learning, and Fusion
 - h) Trust and Influence
 - i) Complex Networks
 - j) Computational Social Sciences
- 3) **Physical Sciences (RTB1)**
 - a) Aerospace Materials for Extreme Environments
 - b) Atomic and Molecular Physics
 - c) Electromagnetics
 - d) Laser and Optical Physics
 - e) Optoelectronics and Photonics
 - f) Plasma and Electro-Energetic Physics
 - g) Quantum Electronic Solids
 - h) Quantum Information Systems
 - i) Remote Sensing
 - j) Space Science
 - k) Ultrashort Pulse Laser-Matter Interactions
 - 4) **Chemistry and Biological Sciences (RTB2)**
 - a) Biophysics
 - b) Human Performance and Biosystems
 - c) Mechanics of Multifunctional Materials and Microsystems
 - d) Molecular Dynamics and Theoretical Chemistry
 - e) Natural Materials, Systems and Extremophiles
 - f) Organic Materials Chemistry

AFOSR PROCESS

Broad Agency Announcements:

As with all DOD agencies, AFOSR uses Broad Agency Announcements (BAAs) to advertise potential funding opportunities. AFOSR issues a general BAA (FA9550-18-S-0003) delineating agency interests, contacts, proposal submission process, and approximate funding available. For FY 18, AFOSR expects to spend \$300 million in support of projects submitted for consideration under this BAA; the typical funding range is \$200,000-\$400,000 per year for 3-5 years. No deadlines are associated with this general BAA. Throughout the year, additional BAAs on specific subjects of interest to the Air Force are also released. All AFOSR BAAs are available via Grants.gov.

Additional Funding Mechanisms:

AFOSR offers a **Young Investigator Research Program** with full proposals typically due in late spring. Eligible candidates have had their PhD or equivalent degrees in science or engineering disciplines for 5 years or less; are US citizens, nationals or permanent residents; and are employed on a full-time basis in a regular position. These Young Investigator Awards provide up to \$150,000 per year for 3 years. AFOSR also participates in DOD-wide research programs such as the Air Force Summer Faculty Fellowship Program, the Defense University Research Instrumentation Program (DURIP), and the Multidisciplinary University Research Initiative (MURI).

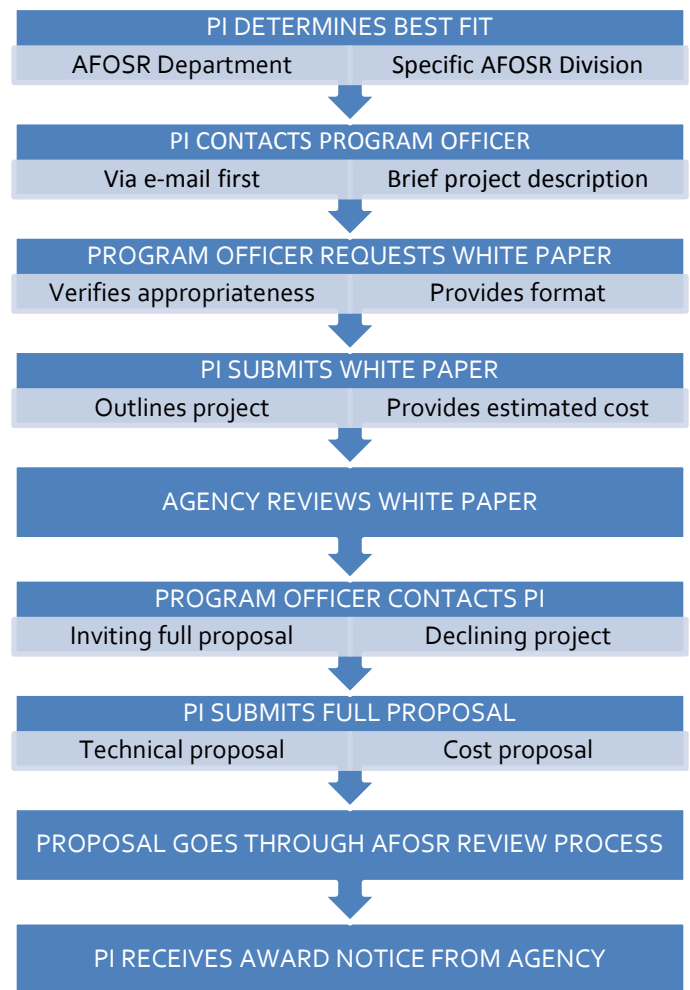
Know Your Program Officer:

It is very important that Principal Investigators (PIs) establish a positive, ongoing relationship with AFOSR Program Officers. Start with an introductory e-mail briefly describing your project. This will hopefully result in a telephone or in-person conversation, allowing you to sell the benefits of your proposed project to specifically further Air Force interests and needs. Program Officers are continually building a community of researchers. While unsolicited proposals are encouraged, Program Officers can go directly to individual researchers within the AFOSR research community to address specific agency needs as they arise.

Typical AFOSR Proposal Process:

- 1) PI determines best fit for proposed research project within the AFOSR organization – department, division and research area
- 2) PI makes initial contact with Program Officer, usually via e-mail with brief description of project
- 3) Program Officer requests a white paper outlining the proposed project (many Program Officers provide specific white paper formats)
- 4) PI submits white paper for agency review
- 5) Program Officer reviews the submitted white paper to determine agency relevance and interest
- 6) Program Officer invites a full proposal for AFOSR consideration or indicates a full proposal is not warranted
- 7) PI submits full proposal via Grants.gov
- 8) Proposal goes through agency review process
- 9) Successful PI receives award notice from AFOSR; AFOSR then negotiates award with institutional business office

AFOSR PROPOSAL PROCESS



Proposal Review Process:

AFOSR Program Officers use either a peer or programmatic review process at their discretion for full proposal review. Potential reviewers can include other program officers, other DOD personnel, faculty members at academic institutions, people who work for non-profits, and support contractor personnel. Review criteria are outlined in the specific Broad Agency Announcement to which the proposal is directed. For the general BAA described earlier, there are two primary review criteria: 1) technical merits of the proposed research and 2) development and potential relationship of the proposed research and development to DOD missions. A secondary review criterion involves proposer's capabilities.

Next Steps:

For proposals chosen for award, the PI receives an initial e-mail. Then AFOSR Grant and Contracting Officers work with the University to negotiate the final award.