U.S. AIR FORCE

USSF

Air Force Office of Scientific Research (AFOSR)

KATIE A. H. WISECARVER, PROGRAM MANAGER

AFRL/AFOSR/RTC | 6 MAY 2022

Who we are

A small organization with a big mission …

to Discover, Shape, and Champion Bold, High Risk, High Reward Basic Research to profoundly impact the United States Air Force and Space Force

200 personnel – Scientists & Engineers and Business Professionals

- Active duty Air Force
- All-service veterans
- Renowned academics
- Passionate civil servants

A global network of talent

We partner, grow and discover with a global network of the greatest scientific minds in the world, pulling them into our ecosystem, launching career trajectories, and strengthening their contributions to national defense.

We are the Air Force Research Laboratory/Air Force Office of Scientific Research!

AFOSR Mission Discover, Shape, and Champion Basic Research that profoundly impacts the future Air and Space Force

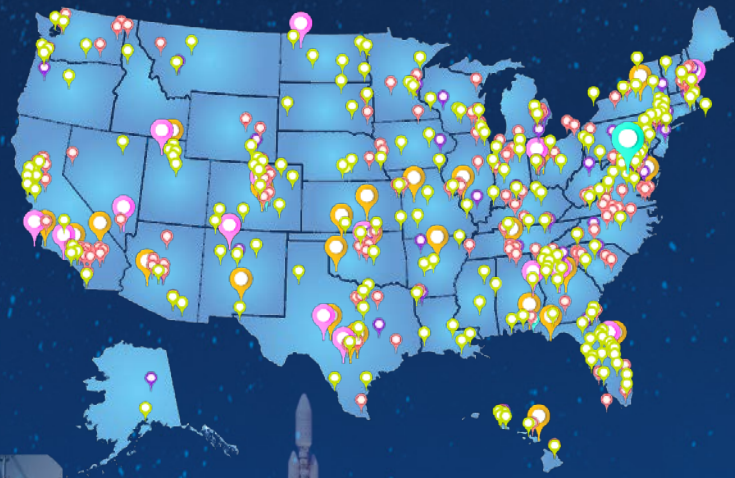
Span of influence - 61 World-class Subject Matter Experts manage 1,350 **Domestic** research projects at 212 Universities and small businesses in 47 states. **Global discovery/partnerships:** 300+ projects in 43 countries

Strengthen and shape the **Science and Engineering talent pipeline** through targeted outreach, research, internships, and fellowship programs to include a focus on Historically Black Colleges and Universities and Minority Serving Institutions. Fund DAF's K-12 STEM Outreach at 30+ bases supporting 500+ competitions!

DAF link to Academia

Global Footprint and Reach

K-12 STEM Outreach Impact



Growing Our Investment in Space Basic Research

Space Force Superiority and Warfighting

Our Priorities

Conduct bold, high risk, high reward research

Bolster Space Force basic research

Strengthen human talent pipeline; emphasize HBCU/MSI and STEM

Enhance existing and establish new partnerships

Accelerate the use of data analytics

How we accomplish our mission

Technology Transition

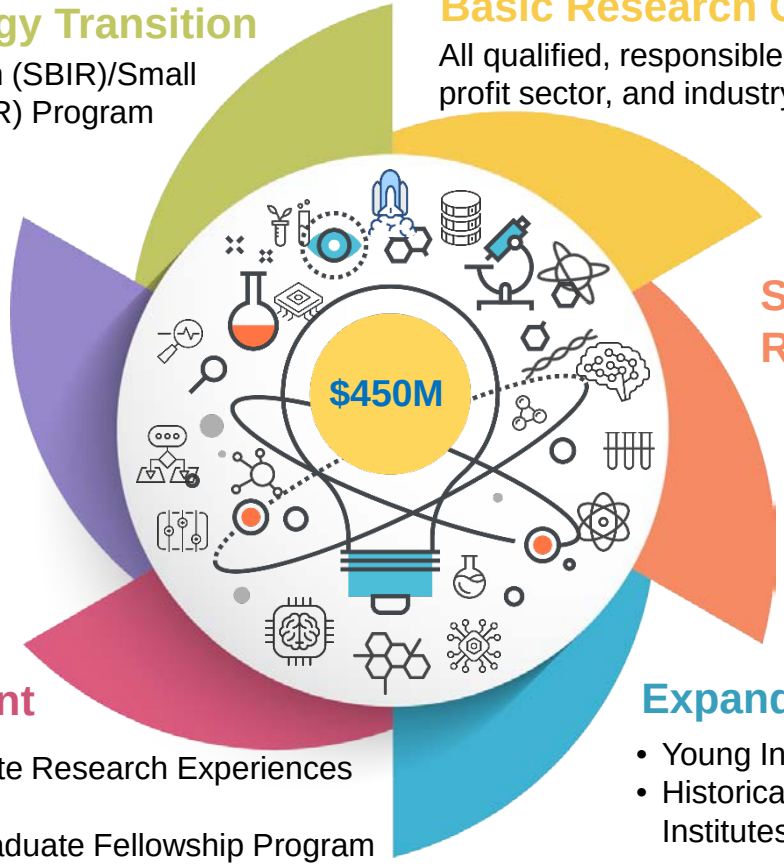
- Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Program
- Partnerships for Transition

Basic Research Grants

All qualified, responsible organizational applicants from academia, the non-profit sector, and industry are eligible to submit research proposals.

Strengthening Academic Research Capabilities

- Multidisciplinary University Research Initiative (MURI) Program
- Defense University Research Instrumentation Program (DURIP)
- Presidential Early Career Award for Scientists and Engineers (PECASE)



Strengthening Air & Space Force Research Capabilities

- US Air Force Academy Program
- Summer Faculty Fellowship Program (SFFP)/Science & Technology Fellowship Program (STFP)

Workforce Development

- Awards to Stimulate and Support Undergraduate Research Experiences (ASSURE)
- National Defense Science and Engineering Graduate Fellowship Program (NDSEG)
- K-12 STEM

Expanding Air & Space Force Academic Reach

- Young Investigator Program (YIP)
- Historically Black Colleges & Universities/Minority Serving Institutes (HBCU/MSI) Program

Diversified investment strategy for maximum discovery potential

Basic Research Portfolios

Engineering and Complex Systems	Information and Networks	Physical Sciences	Chemistry and Biological Sciences	International Office
Dynamic Materials and Interactions	Computational Cognition and Machine Intelligence	Aerospace Materials for Extreme Environments	Biophysics	Asian Office of Aerospace R&D Tokyo
GHz-THz Electronics	Computational Mathematics	Atomic and Molecular Physics	Human Performance and Biosystems	European Office of Aerospace R&D London
Energy, Combustion, and Non-Equilibrium Thermodynamics	Dynamical Systems and Control Theory	Electromagnetics	Mechanics of Multifunctional Materials and Microsystems	Southern Office of Aerospace R&D Santiago
Unsteady Aerodynamics and Turbulent Flows	Dynamic Data and Information Processing	Laser and Optical Physics	Molecular Dynamics and Theoretical Chemistry	North America - Arlington
High-Speed Aerodynamics	Information Assurance and Cybersecurity	Optoelectronics and Photonics	Natural Materials and Systems	
Aerospace Composite Materials	Mathematical Optimization	Plasma and Electro-Energetic Physics	Organic Materials Chemistry	
Multiscale Structural Mechanics and Prognosis	Science of Information, Computation, Learning, and Fusion	Quantum Information Sciences		
Propulsion and Power	Trust and Influence	Physics of Remote Sensing		
Agile Science of Test and Evaluation (T&E)	Complex Networks	Space Science		
	Cognitive and Computational Neuroscience	Ultrashort Pulse Laser-Matter Interactions		
		Condensed Matter Physics		

Research Interests of the Air Force Office of Scientific Research: FA9550-21-S-001

Air Force Defense Research Sciences Conferences and Workshop Support: BAA-AFRL-AFOSR-2016-0008

S&T Funding Opportunities for University Researchers

TRADITIONAL GRANTS

- Extramural Grants
- International Grants
- Historically Black Colleges and University/Minority Institution Grants
- Young Investigator Grants
- Center of Excellence Grants

START

CAPACITY+ OPPORTUNITIES

- Multidisciplinary University Research Initiative Grants
- Instrumentation Grants
- Presidential Early Career Award for Scientists and Engineers
- MINERVA Research Initiative
- Summer Faculty Fellowships
- Windows on Science
- Small Business Tech Transfer Grants/Contracts

GROW

WORKFORCE DEVELOPMENT

- Undergraduate Research Experiences
- Graduate Fellowships
- AFRL Internships
- AFRL Science and Technology Fellowships

SHARE

Science, Technology, Engineering and Mathematics (STEM)

AFRL

The technological superiority of the Air Force depends on the availability of experienced, well-trained scientists, engineers and a STEM literate public.

Dr. Kimberly Jacoby Morris
Program Coordinator, STEM
Program Coordinator, ASSURE
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AIR FORCE STEM

STEM Pre-K-16

Education and outreach activities that promote foundational knowledge building, experiential learning and workforce development

STEM Funding Opportunity Announcement (FOA): FOA-AFRL-AFOSR-2022-0004

DURIP-LL FOA: FOA-AFRL-AFOSR-2022-0002

DAF K12 National Office: afk12stem.com

Awards to Stimulate and Support Undergraduate Research Experiences

Undergraduate research support for projects relevant to DOD areas of interest

Component of the National Science Foundation's Research Experiences for Undergraduates Program: NSF REU

NSF

AIR FORCE RESEARCH LABORATORY

Science, Technology, Engineering and Mathematics (STEM)

AFRL

Dr. Kimberly Jacoby Morris
Program Coordinator, SFFP
Program Coordinator, AFRL Scholars
kimberly.jacoby_morris@us.af.mil

Summer Faculty Fellowship Program

Technical directorates provide professional development opportunities to faculty and graduate students

Alumni self-report finding value in the program and several participants have returned for continued research opportunities

For more information or to apply, please visit
https://afsffp.sysplus.com/

AFRL Scholars

Provides project-based summer internship experiences for HS – Postdoc & professional educators

AFOSR supports RD-managed program in partnership with TDs

For more information or to apply, please visit
https://afrlscholars.usra.edu/

Dr. Kimberly Jacoby Morris
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Frontiers of Engineering

Each year 100 of this country's best and brightest early-career engineers—from academia, industry, and government and a variety of engineering disciplines—learn from their peers about pioneering work in different areas of engineering. The symposium is designed to foster contacts and learning among promising individuals who would not meet in the usual round of professional meetings. This networking may lead to collaborative work, facilitate the transfer of new techniques and approaches, and produce insights and applications that bolster US innovative capacity.

Attendees must be nominated and selected by National Academies of Science and Engineering panelists.

For more information visit https://www.naefrontiers.org/199151/2022-US-Frontiers-of-Engineering-Symposium

Presidential Early Career Award for Scientist and Engineers (PECASE)

Ms. Ellen M. Robinson
Program Coordinator, STFP
Program Coordinator, PECASE
ellen.robinson.1@us.af.mil

Apply for an AFRL STFP Fellowship

STFP

STFP is the premiere AFRL research associate program managed by the National Academies of Science. STFP offers 100 (84 AFOSR/16 TD funded) post-doctoral and senior scientists and engineers opportunities to perform "in residence" research at sponsoring DAF laboratory sites (AFRL, AFIT, USAFA and USSF). Recipients receive two year awards with limited three year awards.

PECASE

The DoD PECASE is awarded to early career S&Es who have fostered innovative and far-reaching S&T breakthrough developments in DoD critical research areas under the direction of the Office of Science Technology and Policy. Recipients receive five year research grant totaling $1,000,000 ($200,000 annually).

Young Investigator Program (YIP)

Ms. Ellen M. Robinson
DoD Program Manager, NDSEG
Program Coordinator, YIP
ellen.robinson.1@us.af.mil

2022 NDSEG Conference

Apply for an NDSEG Fellowship

YIP FOA: FOA-AFRL-AFOSR-2022-0005

NDSEG

This congressionally mandated program under the direction of the Office of the Under Secretary of Defense for Research and Engineering, OUSD (R&E), is a tri-service fellowship program sponsored by the Air Force Research Laboratory (AFRL), the Army Research Office (ARO), and the Office of Naval Research (ONR) designed to increase the number of US citizens receiving doctorates in research discipline areas of military importance at US institutions. Three year fellowship includes: full tuition/fees, $3,400 monthly stipend, $5,000 travel budget, & $1,400 healthcare insurance.

YIP

The YIP is awarded to outstanding early career S&Es who show innovative and “high” risk basic research directly related to AFOSR portfolios in promising and potential groundbreaking topics resulting in “high” reward. Recipients receive a three year research grant totaling $450,000 (up to $150,000 annually).

For more information visit the YIP APAN page

Mr. Edward Lee
Program Coordinator, HBCU/MSI
edward.lee@us.af.mil

HBCU/MSI

HBCU is under 10 USC 2362 with the objective of the program being to:

- enhance the research and educational capabilities of such institutions
- encourage the participation of such institutions in the research, development, testing and evaluation of programs of the DoD
- increase the number of graduates from such institutions
- encourage research and educational collaborations

HBCU is open to:

- institutions of higher education eligible for assistance under Title III and V of the Higher Education Act of 1965
- Accredited post-secondary minority institutions

Multidisciplinary University Research Initiative (MURI)

Ms. Katie A. H. Wisecarver
DoD Program Manager, DURIP
Program Coordinator, MURI
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DURIP FOA: FOA-AFRL-AFOSR-2022-0001

MURI FOA: FOA-AFRL-AFOSR-2022-0003

DURIP

DURIP is an Office of the Under Secretary of Defense, Research and Engineering (OUSDR&E) sponsored tri-service program designed to improve the capabilities of accredited United States (US) institutions of higher education to conduct research and to educate scientists and engineers in areas important to national defense by providing funds for the acquisition of research equipment or instrumentation.

MURI

The MURI is an OUSDR&E sponsored tri-service program that supports academic research teams in conducting ground-breaking, field-changing basic research addressing problems that span multiple disciplines. MURIs are extremely competitive awards for high-risk and innovative research that cannot be accomplished via single investigator grants. MURI tackles “impossible” problems for DoD.

Dr. Raymond Moszee
Program Coordinator, SBIR/STTR
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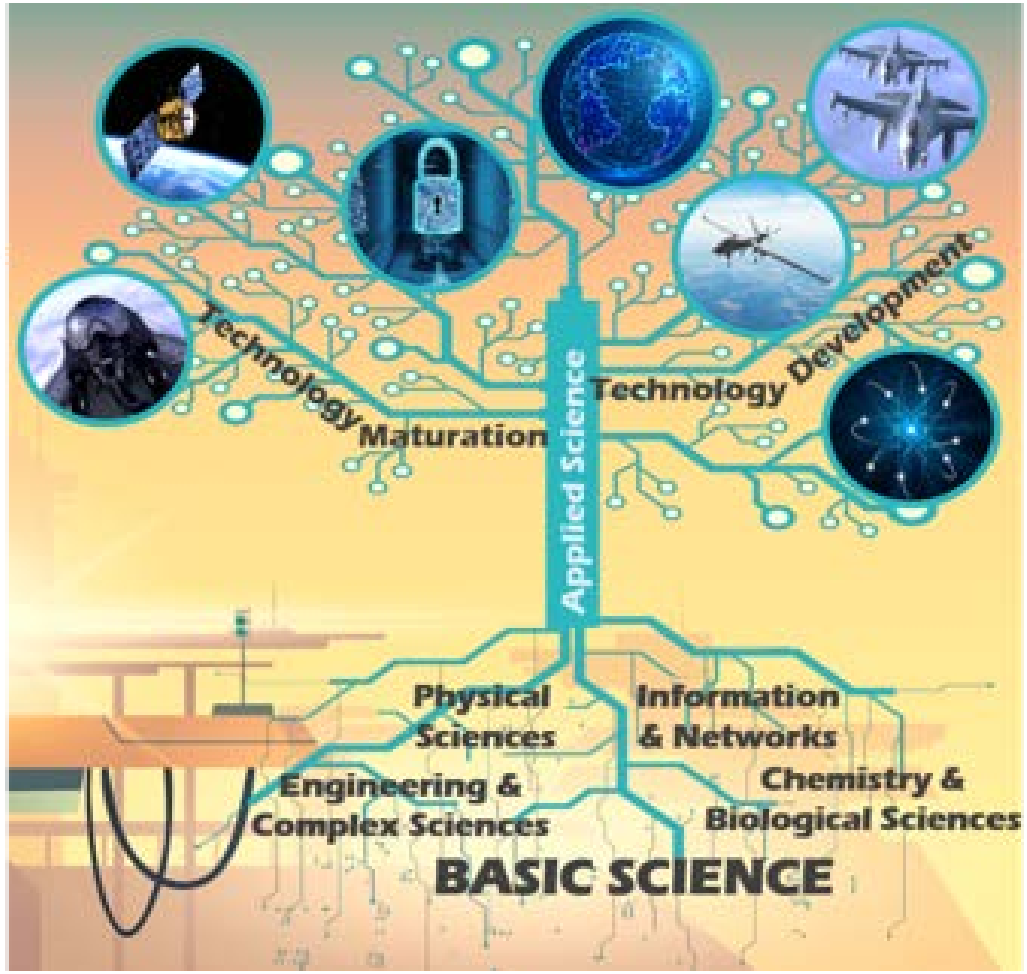
Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR)

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program expands funding opportunities in the federal innovation research and development (R&D) arena. Central to the program is expansion of the public/private sector partnership to include the joint venture opportunities for small businesses and nonprofit research institutions. The unique feature of the SBIR/STTR program is the requirement for the small business to formally collaborate with a research institution in Phase I and Phase II. SBIR/STTR's most important role is to bridge the gap between performance of basic science and commercialization of resulting innovations.

For more information or to apply for a SBIR/STTR please visit https://www.sbir.gov/

Why we do what we do



Capabilities in the Hands of the Warfighter

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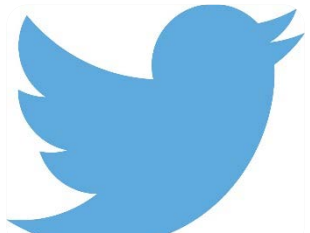
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#AFOSRYIP #EarlyCareer #Grants #AFOSRDURIP #FundingOpportunities #CenterofExcellence #STEM

Questions?