



AFRL

Taking the Pentagon to the People Hampton University

Mr. Edward J. Lee
Program Coordinator
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AF Research Laboratory Locations

OHIO

- HEADQUARTERS
- MATERIALS & MANUFACTURING
- SENSORS
- AEROSPACE SYSTEMS

CALIFORNIA

- AEROSPACE SYSTEMS WEST

NEW MEXICO

- SPACE VEHICLES
- DIRECTED ENERGY

HAWAII

- Maui Research Site

TEXAS

- *Airman Systems

OHIO

- HUMAN PERFORMANCE

NEW YORK

- INFORMATION

VIRGINIA

- AF OFFICE OF SCIENTIFIC RESEARCH
- London, UK
- Tokyo, Japan
- Santiago, Chile

FLORIDA

- MUNITIONS

TENNESSEE

- *AEROSPACE SYSTEMS

AFRL
THE AIR FORCE RESEARCH LABORATORY
LEAD | DISCOVER | DEVELOP | DELIVER

Locations on map: Edwards AFB, Kirtland AFB, Arnold AFB, Eglin AFB, Wright-Patterson AFB, Rome, Arlington

USAF School of Aerospace Medicine
Human Systems Integration
Airman Systems

Air Force Office of Scientific Research



Mission

Discover, shape, and champion **BASIC RESEARCH** that profoundly impacts the future Air and Space Forces

Annual Budget (~\$500M)



Basic Research Funding Process

FIND

36 Program Officers (POs), **18** International Program Officers (IPOs) and **7** Program Coordinators (PCs) reaching scientists & engineers globally

FORM

Shape emerging science into high-performing teams and portfolios that address long-term basic science barriers to future AF capabilities

FUND

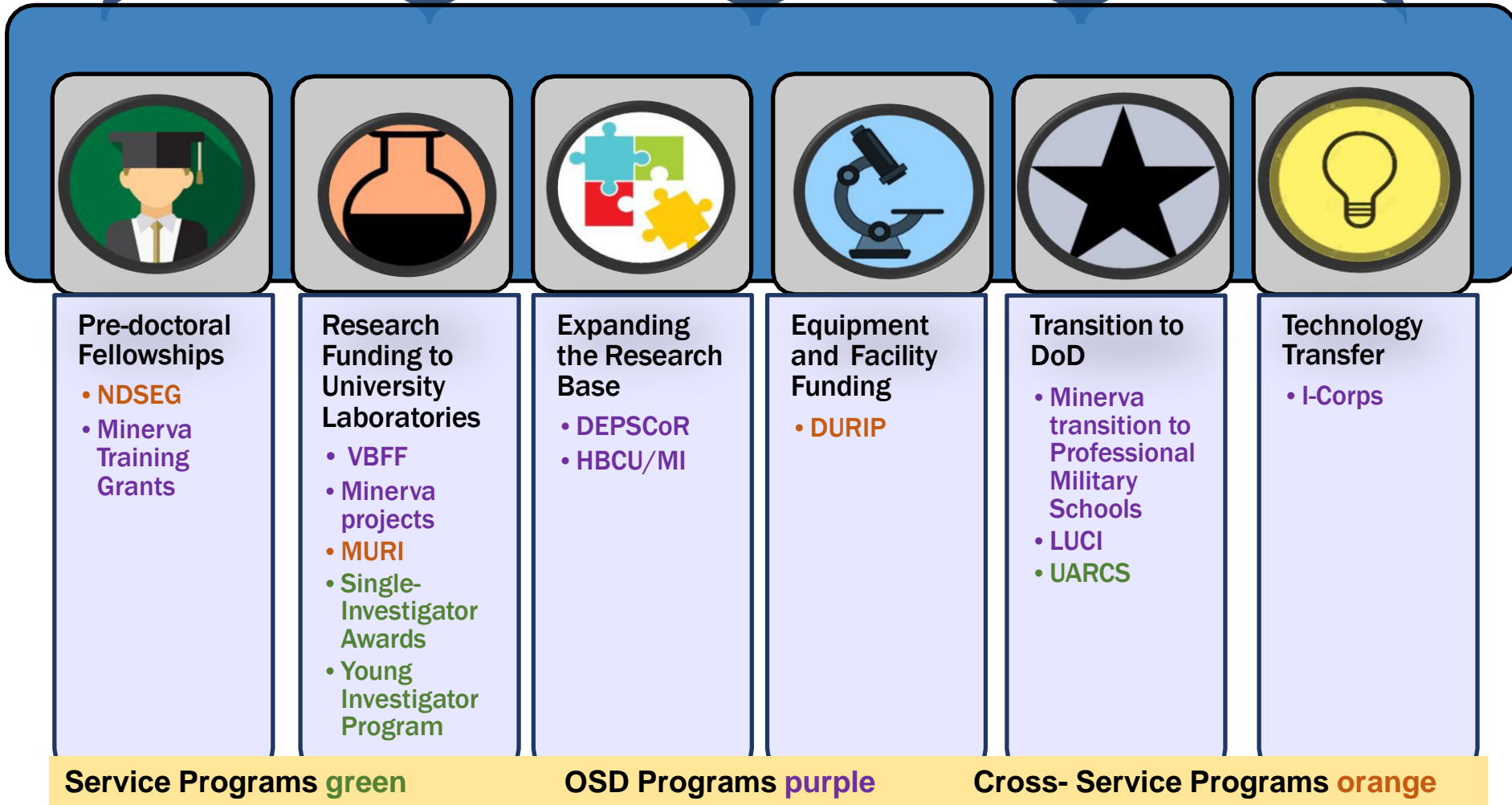
1215 extramural research projects at **209** US universities in **46** states
325 intramural research projects at AFRL Technical Directorates & Air Force Institute of Technology
348 international efforts in **43** countries on **5** continents

FORWARD

Transition through AFRL Technology Directorates (TDs), Small Business Innovation Research & Small Business Technology Transfer (SBIR/STTR)



Basic Research Investments Across DoD



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	Materials with Extreme Properties	Biophysics	Asian Office of Aerospace R&D Tokyo
GHz-THz Electronics and Materials	Computational Mathematics	Atomic and Molecular Physics	Human Performance and Biosystems	European Office of Aerospace R&D London
Energy, Combustion, and Non-Equilibrium Thermodynamics	Dynamics and Control	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	
Low Density Materials	Optimization and Discrete Mathematics	Plasma and Electro-Energetic Physics	Organic Materials Chemistry	
Multiscale Structural Mechanics and Prognosis	Science of Information, Computation, Learning, and Fusion	Quantum Information Sciences		
Space Propulsion and Power	Trust and Influence	Remote Sensing		
Agile Science of Test and Evaluation (T&E)	Complex Networks	Space Science		
	Cognitive and Computational Neurosciences	Ultrashort Pulse Laser-Matter Interactions		
		Condensed Matter Physics		

HBCU Focus Areas

HBCU is under 10 USC 2362 with the objective of the program 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

Eligibility

- 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

Stakeholders

- Every AFOSR portfolio
- AFRL
- USD(R&E) / DoD
- ARO
- ONR
- Scientific Community

Budget

61102F

FY21	FY22	FY23	FY24	FY25
\$4.5M	\$4.5M	\$4.5M	\$4.5M	\$4.5M

FY20

- 34 winners

FY19

- 36 winners

SFFP Focus Areas

The Summer Faculty Fellowship Program was established to stimulate professional relationships among SFFP fellows, student researchers and the scientists and engineers in AFRL, USAFA, AFIT and the AF T&E Centers.

Eligibility

- Enhance the research interests and capabilities of faculty in the US academic community
- Encourages experienced and promising US scientists in areas that benefit the Air Force

Stakeholders

- Every AFOSR portfolio
- AFRL
- USAFA
- AFIT
- AF T&E Centers
- OUSD / DoD
- Scientific Community

Budget

61102F

FY21	FY22	FY23	FY24	FY25
\$5.0M	\$5.1M	\$5.3M	\$5.4M	\$5.4M

FY21

- 342 applicants (58 from HBCU/MI)
- 233 faculty
- 109 students

FY20

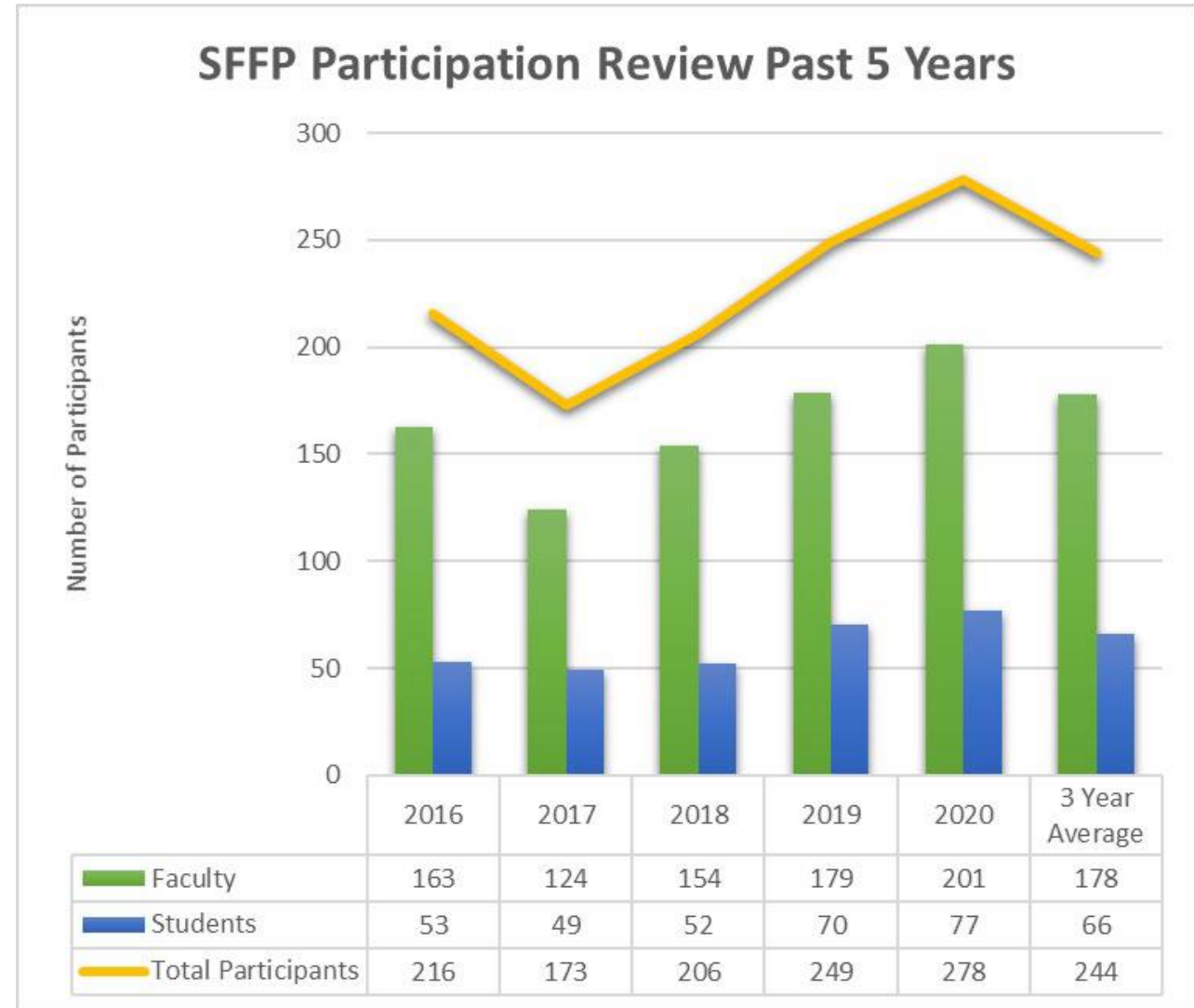
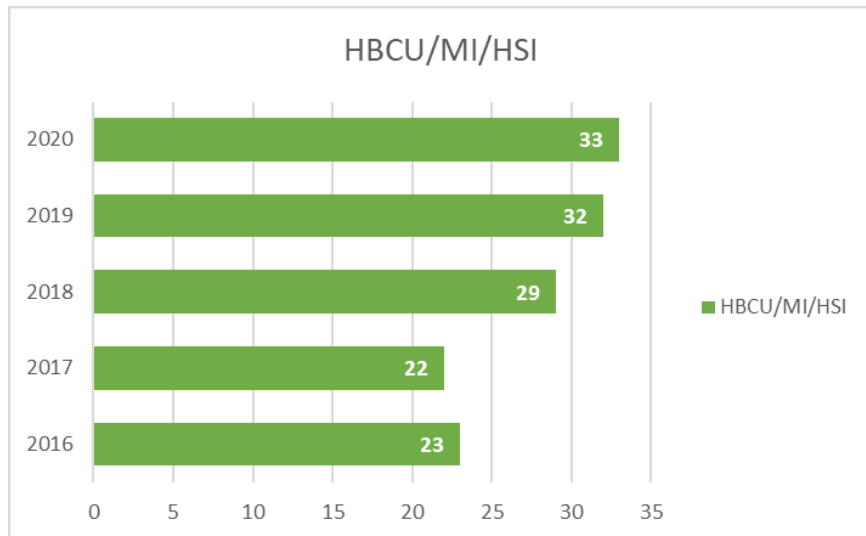
- 278 awards

SFFP Participation Update Over Time

- **FY2020 Applicants:**
- **12% Increase from FY2019**

- **FY2020 Participant:**
- **12% Increase from FY2019**

- **Faculty HBCU/MI/HSI:**
- *(Student Total = Additional 24)*



Stipend amounts and definitions for faculty and students

SFFP Awardee Level Weekly Stipend

Professor \$1,957

Associate Professor \$ 1,751

Assistant Professor \$ 1,545

Master's Student \$ 1,210

Bachelor's Student \$ 911

- Professor is a tenured faculty member with 15 or more years' faculty experience.
- Associate Professor is a faculty member with five to 14 years' faculty experience.
- Assistant Professor is a faculty member with less than five years' faculty experience.
- Master's Student is a student who has completed his/her Master's degree and is enrolled in a PhD program.
- Bachelor's Student is a student who has completed their Bachelor's degree and is enrolled as a graduate student. The student has not completed their Master's degree.

S&T Funding Opportunities

TRADITIONAL GRANTS

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

ADD'L FUNDING OPPORTUNITIES

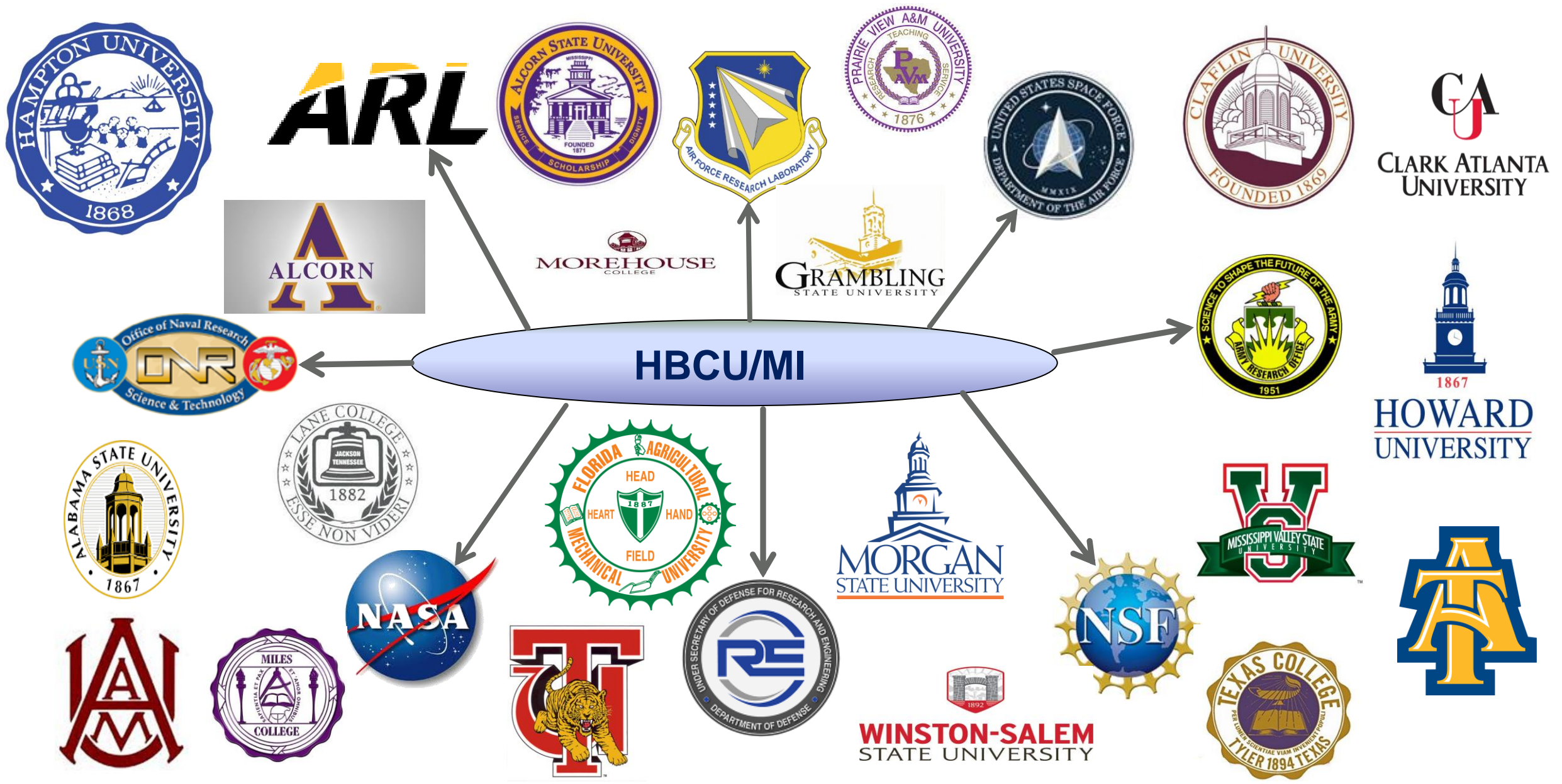
- Multidisciplinary University Research Initiative Grants
- Instrumentation Grants
- Presidential Early Career Award for Scientists and Engineers
- MINERVA Research Initiative
- Summer Faculty Fellowships
- Windows on Science
- Defense Enterprise Science Initiative
- Small Business Tech Transfer Grants/Contracts

WORKFORCE DEVELOPMENT

- Undergraduate Research Experiences
- Graduate Fellowships
- AFRL Internships
- AFRL Science and Technology Fellowships
- Windows on World
- Lab Univ Collaboration Initiative

- Core ~ \$350M, OSD ~ \$150M, Total Budget ~ \$500M
- 65% of core mission funds extramural, 30% intramural, 5% international

Collaborations and Scientific Ecosystem



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Questions