

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 1: Basic Research</i>	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	142.811	96.355	94.259	-	94.259	96.555	109.765	113.739	116.335	Continuing	Continuing
0000: <i>University Research Initiatives</i>	0.000	87.496	96.355	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	183.851
1100: <i>Defense University Research Instrumentation Prgm</i>	0.000	0.000	0.000	14.577	-	14.577	15.936	21.508	23.229	23.760	Continuing	Continuing
1101: <i>Multidisciplinary University Research Initiative</i>	0.000	0.000	0.000	69.770	-	69.770	68.631	74.945	74.808	76.516	Continuing	Continuing
1102: <i>Presidential Early Career Awards</i>	0.000	0.000	0.000	1.985	-	1.985	1.991	2.218	2.258	2.310	Continuing	Continuing
1103: <i>Future R&D Workforce Development</i>	0.000	0.000	0.000	7.927	-	7.927	9.997	11.094	13.444	13.749	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	55.315	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	55.315

A. Mission Description and Budget Item Justification

The Office of Naval Research's (ONR) mission is to ensure the technological advantage of U.S. Naval forces. ONR fosters scientific research necessary for the discovery, development and delivery of new technologies. Often this research is done in partnership with academia. This program includes support for multidisciplinary basic research in a wide range of naval relevant scientific and engineering disciplines that enables the U.S. Navy to maintain technological superiority, for the university research infrastructure to acquire the research instrumentation needed to maintain and improve the quality of university research important to the Navy, and for the graduate students and postdoctoral fellows who will lead DON S&T efforts in the future. Multidisciplinary University Research Initiative (MURI) efforts involve teams of researchers investigating high priority topics and opportunities that intersect more than one traditional technical discipline. For many military problems, this multidisciplinary approach serves to stimulate innovation, accelerate research progress and lay the foundations for transition of results into Naval applications. The Defense University Research Instrumentation Program (DURIP) supports university research infrastructure essential to high quality, Navy-relevant research. The instrumentation program complements other Navy research programs by supporting the purchase of high cost research instrumentation that is necessary to carry out cutting-edge research. This program supports Presidential Early Career Awards for Scientists and Engineers (PECASE) which are single investigator research efforts performed by outstanding academic scientists and engineers early in their research careers. This program provides the knowledge base, scientific concepts, and technological advances for the maintenance of Naval power and national security. The ONR Graduate Student and Postdoctoral Fellow Support project supports the participation of graduate students and postdoctoral fellows in DON-related research. These graduate students and postdoctoral fellows will be the future leaders in areas of science, technology, engineering and mathematics (STEM) critical to DON, DOD and national security.

The missions of today's Sailors and Marines are enabled by the results of naval Science and Technology (S&T). Since 1946, the Office of Naval Research (ONR) has fostered scientific research related to the maintenance of maritime superiority and national defense. ONR manages the Department of the Navy's (DON) portfolio of

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy	Date: March 2024
---	-------------------------

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 1: Basic Research</i>	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>
--	--

naval Basic and Applied research, and Advanced Technology Development investments to ensure naval forces can effectively deter conflict, but when called upon, fight, win and come home safe. Current investments hedge against uncertainty, providing solutions to commanders today, and options for the future. The Naval S&T budget supports higher guidance defined by the National Defense Strategy, and responds to requirements identified by the Secretary of the Navy through research priorities set by the Chief of Naval Research, coordinated across the Naval Research Enterprise (NRE), and outlined in the Naval R&D Framework.

This Program Element (PE) funds Basic Research, typically defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. The work in this PE can be classified between Technology Readiness Level (TRL) 1 (basic principles observed and reported) and TRL 2 (technology concept and/or application formulation).

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	147.376	96.355	100.308	-	100.308
Current President's Budget	142.811	96.355	94.259	-	94.259
Total Adjustments	-4.565	0.000	-6.049	-	-6.049
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.565	0.000			
• Program Adjustments	0.000	0.000	-6.049	-	-6.049
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Defense University Research Instrumentation Program*

Congressional Add: *All digitall arrays for long-distance application power maximization*

Congressional Add: *Artificial intelligence maritime maneuvering*

Congressional Add: *Enhancing installation resiliency at NWS Earle*

Congressional Add: *Defense research initiatives*

Congressional Add Subtotals for Project: 9999

	FY 2023	FY 2024
	28.961	0.000
	9.460	0.000
	4.827	0.000
	2.413	0.000
	9.654	0.000
	55.315	0.000

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy	Date: March 2024
---	-------------------------

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 1: Basic Research</i>	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>
--	--

Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2023		FY 2024
	Congressional Add Totals for all Projects	55.315		0.000

Change Summary Explanation

Funding: The 6.049M funding decrease to FY 2025 is due to a reduction in Basic Research for Strategic Competition investments.

A new project structure was created to promote greater transparency and execution oversight for University Research Initiatives in the Department of the Navy's annual budget request. Projects 1100-1103 were previously funded in this PE, 0601103N, PU 0000 and are not new starts.

Schedule: no significant change

Program: no significant change

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy										Date: March 2024		
Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 0000 / <i>University Research Initiatives</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
0000: <i>University Research Initiatives</i>	0.000	87.496	96.355	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	183.851

Note
Investments in PE 0601103N University Research Initiatives (URI) Project 0000 have been transferred within the PE 0601103N under four new separate Projects (1100-1103). These new Projects support greater transparency of URI investments within the Department of the Navy.

A. Mission Description and Budget Item Justification

The Office of Naval Research's (ONR) mission is to ensure the technological advantage of U.S. Naval forces. ONR fosters scientific research necessary for the discovery, development and delivery of new technologies. Often this research is done in partnership with academia. This program includes support for multidisciplinary basic research in a wide range of naval relevant scientific and engineering disciplines that enables the U.S. Navy to maintain technological superiority and for the university research infrastructure to acquire the research instrumentation needed to maintain and improve the quality of university research important to the Navy. In order to provide greater transparency of Department of the Navy University Research Initiatives (URI) investments, funding has been transferred into new Projects within this PE (0601103N):

- The Defense University Research Instrumentation Program (DURIP) project supports university research infrastructure essential to high quality, Navy-relevant research. This research instrumentation project complements Naval research objectives by supporting the purchase of high-cost research instrumentation that is necessary to carry out cutting-edge research. This research investment has been aligned to new Project 1100.
- Multidisciplinary University Research Initiative (MURI) efforts involve teams of researchers investigating high priority topics and opportunities that intersect more than one traditional technical discipline. For many military problems, this multidisciplinary approach serves to stimulate innovation, accelerate research progress, and lay the foundation for transition of results into Naval applications. This investment has been aligned to new Project 1101.
- The PECASE project supports single-investigator research efforts performed by outstanding academic scientists and engineers early in their research careers. This project provides the knowledge base, scientific concepts, and technological advances for the maintenance of Naval power and national security. This investment has been aligned to new Project 1102.
- The Minerva Research Initiative (MRI) is a partnership with the Office of the Secretary of Defense (OSD) to support basic social science and multi-disciplinary research aimed at improving national security and international stability. All research activities under the MRI project were moved to the Defense Research Sciences (DRS) PE 0601153N starting in FY 2024.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy	Date: March 2024
--	-------------------------

Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 0000 / <i>University Research Initiatives</i>
--	--	---

- The ONR Graduate Student and Postdoctoral Fellow Support project supports the participation of graduate students and postdoctoral fellows in DON-related research. These graduate students and postdoctoral fellows will be the future leaders in areas of science, technology, engineering and mathematics (STEM) critical to DON, DOD and national security. This investment has been aligned to new Project 1103.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Title: Defense University Research Instrumentation Program (DURIP)</p> <p>Description: Defense University Research Instrumentation Program (DURIP) funding is awarded to universities to purchase relatively high cost research instrumentation that is normally not included in single-investigator research grants. These are one-year awards and individual grants typically range from \$50K to \$1.5M. Funding for DURIP efforts are awarded after the Office of the Secretary of Defense (OSD) reviews, selects and announces the awardees. Universities are required to purchase the instrumentation and take delivery before any billing occurs. It frequently takes several months for delivery and billing to be completed. For DURIP award selections, awards are required to be selected, announced, initiated and completed within the same fiscal year.</p> <p>FY 2024 Plans: Continue to fund awards to support purchase or development of instrumentation to enhance ONR basic research efforts across the S&T spectrum, to include workforce development of students and postdoctoral fellows.</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The funding decrease from FY 2024 to FY 2025 is due to the transfer of DURIP S&T investments from Project 0000 to Project (1100) within the same PE (0601103N).</p>	17.989	17.478	0.000	0.000	0.000
<p>Title: Multidisciplinary University Research Initiative (MURI)</p> <p>Description: Research efforts include high priority topics that intersect more than one traditional discipline. MURI topics are selected to address Naval Science and Technology (S&T) Framework Priorities as described in the Naval Research and Development Framework. Funding for MURI efforts is awarded after Office of the Secretary of Defense (OSD) announces the awardees, which typically takes place towards the second half of the fiscal year. Since the MURI program funds academic researchers, execution of the efforts typically ramp up</p>	63.257	75.000	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 0000 / <i>University Research Initiatives</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>during the summer months. MURI projects make significant contributions to Navy and Department of Defense (DOD) objectives by speeding up scientific programs, by cross-fertilization of ideas, by hastening the transition of basic research to practical applications, and by training students in cross-disciplinary approaches to science and engineering research of importance to DoD. MURI projects are five-year programs.</p> <p>FY 2024 Plans: Continue conducting research activities within forty-seven on-going multidisciplinary topic areas.</p> <p>Complete planned research efforts in the following thirteen multidisciplinary topic areas:</p> <ul style="list-style-type: none"> - Self-assessment and Understanding of Competence and Conditions to Ensure System Success - Blueprint for design and assembly of multifunctional, adaptive materials using nanocrystals - Leveraging a New Theoretical Paradigm to Enhance Interfacial Thermal Transport In Wide Bandgap Power - Rationalization of Liquid/Solid and Solid/Solid Interphase Instabilities During Thermal-Mechanical Transients of Metal Additive Manufacturing - Livtronics Living Electronics for Biologically-Enhanced Sensing, Computing, and Signal Transmission - Photomechanical Material Systems From Molecules to Devices - Synthesis Planning and Reaction Discovery For Photochemistry and Chemistry in Novel Environments - Theoretical Foundations of Deep Learning - Classical Entanglement in Structured Optical Fields - Integrated Foundations of Sensing, Modeling, and Data Assimilation for Sea Ice Prediction - Specialization of neural processing during active acoustic sensing in marine mammals and humans - Informatics-Driven Design of Resilient and Deploymerizable Polymers - Identifying Adverse Modes via Human-Machine Cybernetic Modeling <p>Initiate twelve new multidisciplinary research efforts.</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy			Date: March 2024		
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 0000 / <i>University Research Initiatives</i>			
B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
The funding decrease from FY 2024 to FY 2025 is due to the transfer of MURI S&T investments from Project 0000 to Project 1101 within the same PE (0601103N).					
<p>Title: Presidential Early Career Awards (PECASE)</p> <p>Description: PECASE awards are made to academic scientists early in their research careers for extremely prestigious, single-investigator research in areas of vital importance to the Navy. Awards provide national recognition and research grants of up to \$200K per year for five years. OSD, with policy and oversight responsibility for the PECASE program, awards a minimum of four new awards per year. PECASE is a five year program.</p> <p>FY 2024 Plans: Continue full support of early career scientists and engineers showing exceptional potential for leadership at the frontiers of scientific knowledge.</p> <ul style="list-style-type: none"> - Continue funding of new basic research projects in Naval priority areas. - Continued commitment to support twelve previous year basic research projects being conducted by early career investigators. - Initiate two new PECASE awards. <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The funding decrease from FY 2024 to FY 2025 is due to the transfer of PECASE S&T investments from Project 0000 to Project 1102 within the same PE (0601103N).</p>	4.195	2.090	0.000	0.000	0.000
<p>Title: Minerva Research Initiative (MRI) (Social Science Networking)</p> <p>Description: The Minerva Research Initiative is funded in partnership with the Office of the Secretary of Defense to support basic social science and multi-disciplinary research aimed at improving national security and international stability. The goals of this program are to enhance connections between DoD and academia and</p>	2.055	0.000	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 0000 / <i>University Research Initiatives</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>build cultural and foreign area knowledge on topics ranging from the mechanisms of radicalization to geopolitical power projection strategies in a multi-polar world.</p> <p>FY 2024 Plans: All Activities funded under the Minerva Research Initiative were moved to Defense Research Sciences PE 0601153N starting in FY 2024.</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: n/a</p>					
<p>Title: Graduate Student and Postdoctoral Researcher Support</p> <p>Description: The Graduate Student and Postdoctoral Researcher Support Program helps to ensure the quality, vitality and diversity of the future DoN scientific and engineering workforce. The program supports graduate students and postdoctoral fellows engaged in DoN-related research activities in high priority naval science, technology, engineering and mathematics (STEM) disciplines at U.S. institutions, its territories, or possessions, or the Commonwealth of Puerto Rico.</p> <p>FY 2024 Plans: Initiate Graduate Student and Postdoctoral Researcher support in the following priority naval mission areas:</p> <ul style="list-style-type: none"> - Command, Control, Computing, Communications, Cyber, Intelligence, Surveillance, Reconnaissance and Targeting - Ocean Battlespace Sensing - Sea Warfare and Weapons - Warfighter Performance - Air Warfare and Weapons <p>FY 2025 Base Plans:</p>	0.000	1.787	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 0000 / <i>University Research Initiatives</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
<i>FY 2025 OCO Plans:</i> N/A					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The funding decrease from FY 2024 to FY 2025 is due to the transfer of Graduate Student and Postdoctoral Researcher (GSPR) Support S&T investments from Project 0000 to Project 1103 within the same PE (0601103N).					
Accomplishments/Planned Programs Subtotals	87.496	96.355	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 1100 / <i>Defense University Research Instrumentation Prgm</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
1100: <i>Defense University Research Instrumentation Prgm</i>	0.000	0.000	0.000	14.577	-	14.577	15.936	21.508	23.229	23.760	Continuing	Continuing

Note

In order to provide greater transparency of Department of the Navy University Research Initiatives (URI) investments, funding has been transferred into four new Projects (1100 - 1103). Funding for the Defense University Research Instrumentation Program (DURIP) was specifically broken out from PE 0601103N Project 0000 into PE 0601103N DURIP Project 1100. This is not a new start.

A. Mission Description and Budget Item Justification

Defense University Research Instrumentation Program (DURIP) funds are awarded to universities to purchase relatively high cost research instrumentation that is normally not provided for in single-investigator research grants. Individual grants may range from \$50K to \$3.0M. Proposals for DURIP awards are submitted to Defense Services (Army, Navy, Air Force, Space Force) in response to a public Funding Opportunity Announcement (FOA). Proposals received by the Office of Naval Research (ONR) are reviewed and all valid proposals received are prioritized. The Office of the Secretary of Defense (OSD) reviews, selects and announces all Department of Defense (DoD) awardees. Universities awarded grants are required to purchase the instrumentation and take delivery before any billing occurs. DURIP awards provide one-year funding. For all DURIP awards proposals are required to be received, reviewed, prioritized, announced, initiated and completed within one fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Defense University Research Instrumentation Program (DURIP)	0.000	0.000	14.577	0.000	14.577
Description: Defense University Research Instrumentation Program (DURIP) funds are awarded to universities and research institutions to purchase relatively high cost research instrumentation that is normally not included in single-investigator research grants. Individual grants range from \$50K to \$3.0M. Proposals for DURIP awards are submitted in response to a funding opportunity announcement (FOA) and a review of all valid proposals submissions received via grants.gov portal. The Office of the Secretary of Defense (OSD) selects and announces the awardees, which typically takes place towards the second half of the fiscal year. Universities are required to purchase the instrumentation and take delivery before any billing occurs. It frequently takes several months for delivery and billing to be completed. DURIP is a one-year program, so awards are notionally initiated and completed within the same fiscal year.					
FY 2024 Plans: FY2024 plans can be found within project 0000					
FY 2025 Base Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 1100 / <i>Defense University Research Instrumentation Prgm</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Continue to fund awards to support the purchase of research instrumentation and equipment to enhance ONR basic research efforts at Universities and Research Institutions.					
<i>FY 2025 OCO Plans:</i> N/A					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The funding increase from FY 2024 to FY 2025 is due to the transfer of DURIP S&T investments from Project 0000 to Project 1100 within this same PE 0601103N (University Research Initiatives, URI).					
Accomplishments/Planned Programs Subtotals	0.000	0.000	14.577	0.000	14.577

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 1101 / <i>Multidisciplinary University Research Initiative</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
1101: <i>Multidisciplinary University Research Initiative</i>	0.000	0.000	0.000	69.770	-	69.770	68.631	74.945	74.808	76.516	Continuing	Continuing

Note

In order to provide greater transparency of Department of the Navy University Research Initiatives (URI) investments, funding has been transferred into four new Projects (1100 - 1103). Funding for the Multidisciplinary University Research Initiative (MURI) was specifically broken out from PE 0601103N project 0000 into PE 0601103N MURI Project 1101. This is not a new start.

A. Mission Description and Budget Item Justification

The Multidisciplinary University Research Initiative (MURI) project is a Department of Defense (DoD) coordinated effort that supports high priority pure research topics. Each MURI topic is a five-year research grant addressing a challenging multidisciplinary scientific problem. MURI topics require collaboration among academic experts across disciplines from two or more universities to explore solutions to these cross-Service research challenges.

The Office of the Undersecretary of Defense (OUSD) calls for new research topics annually, provides topic guidance, and approves new topics from each of the Defense Services. Office of Naval Research (ONR) MURI topics are selected based on Naval Science and Technology (S&T) priorities. Proposals for MURI research topics are submitted in response to a public Funding Opportunity Announcement (FOA) and all valid research proposals are evaluated by teams of technical experts. The Office of the Secretary of Defense (OSD) reviews all award nominations and announces selected awardees. Only US Universities and Research Institutions are eligible performers and the funding is provided through research grants.

MURI projects make significant contributions to Navy and Department of Defense (DOD) objectives by accelerating research results through multi-university collaboration, a cross-fertilization of ideas, concepts and research approaches pursued. This collaborative research environment nurtured hastens the maturation of basic research concepts to applied applications and through the training of students in cross-disciplinary approaches to science and engineering research topics of priority interest to DoD.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Multidisciplinary University Research Initiative (MURI)	0.000	0.000	69.770	0.000	69.770
Description: The Multidisciplinary University Research Initiative (MURI) project is a Department of Defense (DoD) coordinated effort that supports high priority pure research topics. Each MURI topic is a five-year research grant addressing a challenging multidisciplinary scientific problem. MURI topics require collaboration among academic experts across disciplines from two or more universities to explore solutions to these cross-Service research challenges.					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 1101 / <i>Multidisciplinary University Research Initiative</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>The Office of the Undersecretary of Defense (OUSD) calls for new research topics annually, provides topic guidance, and approves new topics from each of the Defense Services. Office of Naval Research (ONR) MURI topics are selected based on Naval Science and Technology (S&T) priorities. Proposals for MURI research topics are submitted in response to a public Funding Opportunity Announcement (FOA) and all valid research proposals are evaluated by teams of technical experts. The Office of the Secretary of Defense (OSD) reviews all award nominations and announces selected awardees. Only US Universities and Research Institutions are eligible performers and the funding is provided through research grants.</p> <p>MURI projects make significant contributions to Navy and Department of Defense (DOD) objectives by accelerating research results through multi-university collaboration, a cross-fertilization of ideas, concepts and research approaches pursued. This collaborative research environment nurtured hastens the maturation of basic research concepts to applied applications and through the training of students in cross-disciplinary approaches to science and engineering research topics of priority interest to DoD.</p> <p>FY 2024 Plans: FY24 plans can be found within project 0000</p> <p>FY 2025 Base Plans: Continue to support multidisciplinary research in all on-going research topic areas. Update the FY25 Funding Opportunity Announcement (FOA) to publish new research topic areas of priority interest to the Navy.</p> <p>Complete eleven MURI multidisciplinary research awards as currently planned.</p> <p>Initiate up to ten new multidisciplinary research topic awards.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The funding increase from FY 2024 to FY 2025 is due to the transfer of MURI S&T investments from Project 0000 to Project 1101 within the same PE (0601103N).</p>					
Accomplishments/Planned Programs Subtotals	0.000	0.000	69.770	0.000	69.770

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 1101 / <i>Multidisciplinary University Research Initiative</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 1102 / <i>Presidential Early Career Awards</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
1102: <i>Presidential Early Career Awards</i>	0.000	0.000	0.000	1.985	-	1.985	1.991	2.218	2.258	2.310	Continuing	Continuing

Note

In order to provide greater transparency of Department of the Navy University Research Initiatives (URI) investments, funding has been transferred into four new Projects (1100 - 1103). Funding for the Presidential Early Career Awards (PECASE) investment was specifically broken out from PE 0601103N Project 0000 into PE 0601103N PECASE Project 1102. This is not a new start.

A. Mission Description and Budget Item Justification

Presidential Early Career Awards (PECASE) awards are highly competitive research awards made to academic scientists early in their research careers. PECASE awards are extremely prestigious, single-investigator research awards in areas of vital importance to the Department of the Navy. These research awards, made to the very best early career scientists and engineers, provide award recipients national recognition and research grants of up to \$200K per year for five years. The Office of the Secretary of Defense (OSD) has policy and oversight responsibility for the PECASE program. ONR award nominations are reviewed by ONR, the Office of the Undersecretary of Defense (OUSD), and the White House Office of Science and Technology Policy (OSTP) prior to approval and announcement.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Presidential Early Career Awards (PECASE)	0.000	0.000	1.985	0.000	1.985
Description: Presidential Early Career Awards (PECASE) awards are highly competitive research awards made to academic scientists early in their research careers. PECASE awards are extremely prestigious, single-investigator research awards in areas of vital importance to the Department of the Navy. These research awards, made to the very best early career scientists and engineers, provide award recipients national recognition and research grants of up to \$200K per year for five years. The Office of the Secretary of Defense (OSD) has policy and oversight responsibility for the PECASE program. ONR award nominations are reviewed by ONR, the Office of the Undersecretary of Defense (OUSD), and the White House Office of Science and Technology Policy (OSTP) prior to approval and announcement.					
FY 2024 Plans: FY24 plans can be found within project 0000					
FY 2025 Base Plans: Continue support of early career scientists and engineers showing exceptional potential for leadership at the frontiers of					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 1102 / <i>Presidential Early Career Awards</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
scientific knowledge. Continue to support on-going basic research being conducted by early career investigators. Continue funding of new basic research projects in Naval priority areas. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: The funding increase from FY 2024 to FY 2025 is due to the transfer of S&T investments from University Research Initiatives (URI) PE 0601103N Project 0000 to Project 1102 within the same PE.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.985	0.000	1.985

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 1103 / <i>Future R&D Workforce Development</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
1103: <i>Future R&D Workforce Development</i>	0.000	0.000	0.000	7.927	-	7.927	9.997	11.094	13.444	13.749	Continuing	Continuing

Note

In order to provide greater transparency of Department of the Navy University Research Initiatives (URI) investments, funding has been transferred into four new Projects (1100 - 1103). Funding for Graduate Student & Postdoctoral Researcher (GSPR) Support was specifically broken out from PE 0601103N Project 0000 into PE 0601103N Future R&D Workforce Development Project 1103. This is not a new start.

A. Mission Description and Budget Item Justification

The Graduate Student and Postdoctoral Researcher (GSPR) Support Program helps to ensure the quality, vitality and diversity of the future DoN scientific and engineering workforce. The program supports graduate students and postdoctoral fellows engaged in research activities of interest to the Department of the Navy (DoN). Research activities supported in high priority naval science, technology, engineering and mathematics (STEM) disciplines at U.S. institutions, its territories, or possessions, or the Commonwealth of Puerto Rico will provide graduate students and postdoctoral fellows with invaluable experience conducting basic research in areas of priority naval interest, responsibility and exposure to unique naval environmental factors of critical importance.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Graduate Student & Postdoctoral Researcher Support	0.000	0.000	7.927	0.000	7.927
<p>Description: The Graduate Student and Postdoctoral Researcher (GSPR) Support Program helps to ensure the quality, vitality and diversity of the future Department of the Navy (DoN) scientific and engineering workforce. The program supports graduate students and postdoctoral fellows engaged in research activities of interest to the Navy. The GSPR supports basic research activities in naval science, technology, engineering and mathematics (STEM) disciplines. Graduate students and postdoctoral fellow GSPR participants will gain invaluable experience conducting basic research in challenging areas of priority naval interest, responsibility and exposure to unique naval environmental factors of critical importance. Students and postdoctoral fellows at U.S. institutions, its territories, or possessions, or the Commonwealth of Puerto Rico are eligible.</p> <p>FY 2024 Plans: FY24 plans can be found within project 0000</p> <p>FY 2025 Base Plans: Continue full support of research activities for Graduate Student and Postdoctoral Researcher (GSPR) Support at colleges, universities and research institutions in the following priority naval mission areas:</p>					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 1103 / <i>Future R&D Workforce Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
- Command, Control, Computing, Communications, Cyber, Intelligence, Surveillance, Reconnaissance and Targeting - Ocean Battlespace Sensing - Sea Warfare and Weapons - Warfighter Performance - Air Warfare and Weapons FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: The funding increase from FY 2024 to FY 2025 is due to the transfer of PE 0601103N Project 0000 Graduate Student & Postdoctoral Researcher (GSPR) Support S&T investments to Project 1103 within this same PE. Increase in this Project is due to an increase in support of graduate and fellowship researchers across the NRE.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	7.927	0.000	7.927

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 1					R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	55.315	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	55.315

A. Mission Description and Budget Item Justification

Congressional Interest Items not included in other Projects.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024
Congressional Add: Defense University Research Instrumentation Program FY 2023 Accomplishments: Purchase instrumentation and equipment used to enhance university research in the areas of photonics; materials included high-temperature materials, soft multi-material structures, and photomechanical materials; autonomous and robotic systems; optical quantum information; oceanography; electronics; atmospheric turbulence; and distributed energy. FY 2024 Plans: N/A	28.961	0.000
Congressional Add: All digitall arrays for long-distance application power maximization FY 2023 Accomplishments: Conduct research in all digital arrays for long-distance application power maximization. FY 2024 Plans: N/A	9.460	0.000
Congressional Add: Artificial intelligence maritime maneuvering FY 2023 Accomplishments: Conduct research in artificial intelligence maritime maneuvering. FY 2024 Plans: N/A	4.827	0.000
Congressional Add: Enhancing installation resiliency at NWS Earle FY 2023 Accomplishments: Conduct research in enhancing installation resiliency. FY 2024 Plans: N/A	2.413	0.000
Congressional Add: Defense research initiatives FY 2023 Accomplishments: Conduct basic research in new areas through defense research initiatives. FY 2024 Plans: N/A	9.654	0.000
Congressional Adds Subtotals	55.315	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 1	R-1 Program Element (Number/Name) PE 0601103N / <i>University Research Initiatives</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A