



# Department of Defense INSTRUCTION

**NUMBER** 3210.1

September 16, 2005

Incorporating Change 1, October 15, 2018

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USD(R&E)

**SUBJECT:** Administration and Support of Basic Research by the Department of Defense

- References:**
- (a) DoD Directive 3210.1, "Administration and Support of Basic Research by the DoD," October 26, 1961 (hereby canceled)
  - (b) Deputy Secretary of Defense Memorandum, "DoD Directives Review – Phase II," July 13, 2005
  - (c) Executive Order 10521, "Administration of Scientific Research by Agencies of the Federal Government," March 17, 1954, as amended
  - (d) Executive Order 13185, "To Strengthen the Federal Government-University Research Partnership," December 28, 2000
  - (e) Deputy Secretary of Defense Memorandum, "Establishment of the Office of the Under Secretary of Defense for Research and Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment," July 13, 2018

## 1. REISSUANCE AND PURPOSE

This Instruction:

- 1.1. Reissues reference (a) as a DoD Instruction to comply with reference (b); and
- 1.2. Implements the scientific research policy in reference (c) and guiding principles in reference (d) for the government-university research partnership.

## 2. APPLICABILITY

This Instruction applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense (hereafter referred to collectively as the "DoD Components").

### 3. DEFINITION

Basic Research. 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. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress.

### 4. POLICY

It is DoD policy that:

4.1. Basic research is essential to the Department of Defense's ability to carry out its missions because it is:

4.1.1. A source of new knowledge and understanding that supports DoD acquisition and leads to superior technological capabilities for the military; and

4.1.2. An integral part of the education and training of scientists and engineers critical to meeting future needs of the Nation's defense workforce.

4.2. The Department of Defense shall:

4.2.1. Conduct a vigorous program of high quality basic research in the DoD Component laboratories; and

4.2.2. Support high quality basic research done by institutions of higher education, other nonprofit research institutions, laboratories of other Federal agencies, and industrial research laboratories.

4.3. The DoD Components' conduct and support of basic research shall be consistent with the principles stated in enclosure 1.

### 5. RESPONSIBILITIES

5.1. The Director of Defense Research and Engineering shall:

5.1.1. Provide technical leadership and oversight; issue guidance for plans and programs; develop policies; conduct analyses and studies; and make recommendations for DoD basic research.

5.1.2. Recommend approval, modification, or disapproval of the DoD Components' basic research programs and projects to eliminate unpromising or unnecessarily duplicative programs, and to stimulate the initiation or support of promising ones.

5.1.3. Recommend, through the Under Secretary of Defense for Acquisition, Technology, and Logistics to the Secretary of Defense, appropriate funding levels for DoD basic research.

5.1.4. Develop and maintain a metrics program to measure and assess the quality and progress for DoD basic research, a required element of which is an independent technical review:

5.1.4.1. At least biennially; and

5.1.4.2. With participation by all the Military Departments and all the other DoD Components that have basic research programs.

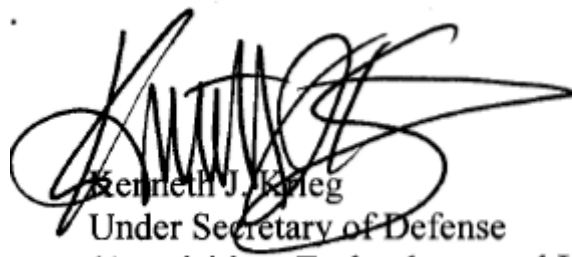
5.1.5. Monitor the implementation of this Instruction and issue any additional direction and guidance that may be necessary for that purpose.

5.2. The Directors of the Defense Agencies supporting basic research and the Secretaries of the Military Departments, within their organizational purview, shall implement this Instruction.

6. SUMMARY OF CHANGE 1. This change reassigns the office of primary responsibility for this instruction to the Under Secretary of Defense for Research and Engineering in accordance with the July 13, 2018 Deputy Secretary of Defense Memorandum (reference (e)).

7. EFFECTIVE DATE

This Instruction is effective immediately.



Kenneth J. Krieg  
Under Secretary of Defense  
(Acquisition, Technology, and Logistics)

Enclosure -1

E1. Principles for the Conduct and Support of Basic Research

E1. ENCLOSURE 1

PRINCIPLES FOR THE CONDUCT AND SUPPORT OF BASIC RESEARCH

E1.1.1. Basic research is an investment. The DoD Components are to view and manage basic research investments as a portfolio, with assessments of program success based on aggregate returns. There should be no expectation that every individual research effort will succeed because basic research essentially is an exploration of the unknown and specific outcomes are not predictable.

E1.1.2. Basic research is a long-term activity that requires continuity and stability of support. Individual basic research efforts sometimes return immediate dividends, with transitions directly from research laboratories to defense systems in the field. However, most often the full benefits of basic research are not apparent until much later. Therefore, the DoD Components must engage in long-term planning and funding of basic research to the maximum possible extent.

E1.1.3. Balance is essential in the portfolio of basic research investments. A wide range of scientific and engineering fields is of potential interest to the Department of Defense and the DoD Components. It is important to develop a balanced portfolio that includes investments not only in established research areas with promise for evolutionary advances, but also in areas that entail higher risk and offer potential for revolutionary advances with correspondingly higher benefits.

E1.1.4. Coordination with other Federal agencies is important. The DoD Components are to consider other Federal agencies' basic research investments when making investment decisions, both to avoid unintended overlapping of support and to leverage those agencies' investments as appropriate.

E1.1.5. Merit review is used to select basic research projects for support. It is crucial that the Department of Defense invest in the highest quality research for defense needs. Merit review relies on the informed advice of qualified individuals who are independent of the individuals proposing to do the research. The principal merit review factors used in selecting among possible projects are technical merit and potential long-term relevance to defense missions.