NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

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Dear Colleague Letter: Transforming the CMMI Advanced Manufacturing Core Programs to Revitalize the Nation's Strategic Industries

July 12, 2018

Dear Colleague:

The Division of Civil, Mechanical and Manufacturing Innovation (CMMI), within the National Science Foundation's Directorate for Engineering would like to bring to your attention a change in the program description for the Advanced Manufacturing (AM) cluster effective August 15, 2018. Core programs in the AM cluster have been consolidated to form the Advanced Manufacturing (AM) program that addresses fundamental research needed to revitalize American manufacturing to grow the national prosperity and workforce, and to reshape the Nation's strategic industries. The AM program seeks to accelerate advances in manufacturing technologies with emphasis on multi-disciplinary research that fundamentally alters and transforms manufacturing capabilities, methods and practices.

This change in the program description is designed to remove the appearance of intellectual boundaries between topics foundational to advanced manufacturing research, and to encourage principal investigators (PIs) to incorporate challenges and convergent approaches outside the customary manufacturing portfolio to broaden the impact of America's advanced manufacturing research. Research areas will span the full range of advanced manufacturing to build new science leading to fundamental changes and improvements in manufacturing. Innovative proposals which transcend or cross domain boundaries are encouraged. Single and multi-PI proposals at all budgetary levels will be considered, as justified by the project scope.

Potential research areas include:

- Manufacturing at all length scales, from nano-to-macro, enabling new paradigms in material processing and structure formation;
- New processes and processing regimes utilizing novel processing conditions - often at the extremes of current conditions or using externally imposed fields;

- Integration of machine learning with manufacturing;
- Materials processing offering unprecedented control and range of the microstructures and properties;
- Surface and interface engineering allowing new engineering structures or levels of performance;
- Innovations in manufacturing machines and processes;
- Cybermanufacturing research enabling leaps in the evolution of network-accessed manufacturing services;
- Processes extending the use of materials in forms beyond their accessed range such as in extreme environments; and
- Manufacturing of bio-incorporated and compatible structures.

Effective August 15, 2018, the Manufacturing Machines and Equipment, Materials Engineering and Processing, Nanomanufacturing and Cybermanufacturing programs will no longer be accepting new proposals. Investigators on active awards from these archived programs must still submit project reports and may submit supplemental funding requests.

Sincerely,

Dawn M. Tilbury
Assistant Director, Engineering Directorate