



NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NSF 17-030

Dear Colleague Letter: Advanced Manufacturing Research to Address Basic Research Enabling Innovation at Manufacturing USA Institutes

November 18, 2016

The National Science Foundation (NSF) is announcing interest in research proposals to address critical fundamental research needs in advanced manufacturing, especially proposals that will enable innovations in one or more of the Manufacturing USA institutes' focus areas and leverage the facilities, infrastructure and member companies of an institute.

Since 2001, close to six million manufacturing jobs have been lost in the United States, compelling the development of a robust innovation policy as outlined in the Administration's *A National Strategic Plan for Advanced Manufacturing*.¹ One fundamental and far-reaching development is Manufacturing USA (formerly the National Network for Manufacturing Innovation), intended to secure advantage in advanced manufacturing, with particular emphasis on domestic manufacturing. A key component of Manufacturing USA is the creation of public-private partnerships to accelerate investment in and deployment of advanced manufacturing technologies. The Manufacturing USA Institutes have been established in topic areas that exemplify the challenging and high-tech world of advanced manufacturing, from the use of 3D printing to the production of flexible electronics. The National Science Foundation is part of the multi-agency team that has guided the formation of Manufacturing USA and continues its support through this Dear Colleague Letter (DCL).

Basic research in advanced manufacturing forms the foundation for many breakthrough technologies and innovations with significant economic and societal impact. This DCL encourages proposals that address critical fundamental research needs in advanced manufacturing in one or more of the Manufacturing USA institutes' focus areas. The resulting knowledge can, in turn, enable new technologies that feed into the innovation pipelines of one or more of the Manufacturing USA Institutes. Proposals that include a collaboration with an Institute and leverage the facilities, infrastructure and member companies of that Institute are particularly encouraged. A summary of the Institute focus areas can be found at <https://www.manufacturingusa.com/institutes>.

Submission Process

This is not a new program. Interested proposers are encouraged to submit proposals to the regular NSF programs listed below. Proposals in response to this DCL must meet the requirements of the *NSF Proposal and Award Policies and Procedures Guide (PAPPG)* and the review criteria of the program to which they are submitted. Proposals in response to this DCL should have a title prefixed by "Manufacturing USA:"

A mapping of Institutes' focus to closely aligned NSF program directors is listed below for initial inquiries; however, principal investigators are encouraged to think broadly about opportunities for proposal

submission.

Institute	NSF Contact
America Makes, LIFT, IACMI, AFFOA	S. Schmid, A. Lewis, T. Kuech
DMDII, CESMII	L. Goldberg, B. Kramer
Power America, AIM Photonics, NextFlex	K. Cooper, L. Goldberg, D. Pavlidis, U. Varshney
RIME, ATB	K. Cooper, S. Schmid

Interested investigators are encouraged to contact the program director(s) of the program(s) to which they are considering submitting a proposal. Guidance in selecting the most appropriate program for submission can be sought from:

- Khershed Cooper (kcooper@nsf.gov, 703-292-7017), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - NM);
- Lawrence Goldberg (lgoldber@nsf.gov), Division of Electrical, Communications & Cyber Systems (ECCS);
- Bruce Kramer (bkramer@nsf.gov, 703-292-5348), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - CM);
- Tom Kuech (tkuech@nsf.gov, 703-292-8606), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - MEP);
- Alexis Lewis (alewis@nsf.gov, 703-292-2624), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - MEP);
- Dimitris Pavlidis (dpavli@nsf.gov), Division of Electrical, Communications and Cyber Systems (ECCS - EPMD);
- Steven Schmid (sschmid@nsf.gov, 703-292-8611), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - MME);
- Mary Toney (mtoney@nsf.gov, 703-292-7008), Division of Civil, Mechanical and Manufacturing Innovation (CMMI - MEP); and
- Usha Varshney (uvarshne@nsf.gov, 703-292-8339), Division of Electrical, Communications and Cyber Systems (ECCS - EPMD).

Sincerely,

Grace Wang
Acting Assistant Director for Engineering (ENG)
National Science Foundation

¹ Executive Office of the President, National Science and Technology Council, February 2012.