National Science Foundation
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Dear Colleague Letter: Cyberinfrastructure Framework in Mathematical and Physical Sciences

The Mathematical and Physical Sciences (MPS) Directorate at NSF is committed to supporting the research, infrastructure, and workforce needs of its communities. One aspect of increasing importance is the volume and complexity of data generated across the scientific disciplines supported by MPS. As part of a multi-faceted approach to addressing this challenge, MPS in partnership with the Office of Cyberinfrastructure (OCI) would like to draw your attention to a long-term strategic NSF-wide initiative, Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21). This initiative supports building the integrated, interdisciplinary, cyberinfrastructure necessary to support complex science and engineering research, developing a broad range of computational and data-enabled science and engineering activities, and assisting and encouraging the careers of computational and data-enabled scientists and engineers. While NSF already provides support for some integrative cyberinfrastructure projects, such as Extreme Science and Engineering Discovery Environment (XSEDE) or the Open Science Grid (OSG), CIF21 will enable NSF, and MPS in particular, to address the dynamic needs of the MPS communities in a systematic and strategic way, potentially building on ongoing projects.

In FY2012, MPS plans to support CIF21 programs within the scope of its normal programmatic and multidisciplinary activities. Therefore, we are encouraging individuals, as well as teams of investigators, with CIF21-related projects to submit their proposals to already existing programs in MPS and OCI. Proposals funded in FY2012 will be in partnership with OCI and will serve as a basis for future investments in research and infrastructure. It is anticipated that through such activities there will be not only advances in frontier research, but also to the development of a more comprehensive, integrated, sustainable and secure cyberinfrastructure that will in turn support increasingly complex scientific research. To further establish the foundation and to plan for the future, we also encourage proposals for workshops that will identify the grand challenges that arise with large data sets and the science enabled by them.

If you have any questions about your proposal, suitability of a workshop topic or concept, or about CIF21 in general, please email your question to cif21mps@nsf.gov, and a program officer from the relevant division will respond. We also plan a webinar to explore ideas for proposals in more depth on December 7, 2011. MPS and OCI look forward to supporting your proposals and to produce a more comprehensive and unified approach to the investment strategy in CIF21 related research, infrastructure and workforce development.

Signed

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