



National Science Foundation
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NSF 13-043

Dear Colleague Letter: OCI & Exploiting Parallelism and Scalability

Date: January 25, 2013

The Office of Cyberinfrastructure (OCI) is participating in the recently released solicitation Exploiting Parallelism and Scalability (XPS, http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504842) as part of its CIF21 efforts. The Exploiting Parallelism and Scalability (XPS) program aims to support groundbreaking research leading to a new era of parallel computing. XPS seeks research re-evaluating, and possibly re-designing, the traditional computer hardware and software stack for today's heterogeneous parallel and distributed systems and exploring new holistic approaches to parallelism and scalability. Achieving the needed breakthroughs will require a collaborative effort among researchers representing all areas -- from the application layer down to the micro-architecture -- and will be built on new concepts and new foundational principles.

OCI encourages proposals that include the potential of transition of XPS research to practice in ways that will:

1. Contribute to development and deployment of comprehensive, integrated, sustainable, and secure cyberinfrastructure at the national or international scale;
2. Have an effective cyberinfrastructure impact with clearly defined benefits across multiple research disciplines; and
3. Build on existing or upcoming OCI investments, as well as major cyberinfrastructure investments from other units.

Additional context for OCI's interests in this solicitation can be found in:

- Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21): <http://www.nsf.gov/cif21>
- Advanced Computing Infrastructure: Vision and Strategic Plan (NSF 12-051): http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf12051
- A Vision and Strategy for Software for Science, Engineering, and Education: Cyberinfrastructure Framework for the 21st Century (NSF 12-113): http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf12113

Questions regarding the solicitation should be addressed to the appropriate program director as listed on the solicitation.