

Name and brief description of Program:

Office of Cyberinfrastructure (OCI), National Science Foundation.

Brief description of goals of Program:

The Office of Cyberinfrastructure coordinates and supports the acquisition, development and provision of state-of-the-art cyberinfrastructure resources, tools and services essential to the conduct of 21st century science and engineering research and education.

OCI supports cyberinfrastructure resources, tools and related services such as supercomputers, high-capacity mass-storage systems, system software suites and programming environments, scalable interactive visualization tools, productivity software libraries and tools, large-scale data repositories and digitized scientific data management systems, networks of various reach and granularity and an array of software tools and services that hide the complexities and heterogeneity of contemporary cyberinfrastructure while seeking to provide ubiquitous access and enhanced usability.

OCI supports the preparation and training of current and future generations of researchers and educators to use cyberinfrastructure to further their research and education goals, while also supporting the scientific and engineering professionals who create and maintain these IT-based resources and systems and who provide essential customer services to the national science and engineering user community.

Program contact information:

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Additional contact information can be found at:

http://www.nsf.gov/staff/staff_list.jsp?org=OCI

Website address of program:

<http://www.nsf.gov/dir/index.jsp?org=OCI>

Brief description of computational biology components and their goals:

The goals of the Office of Cyberinfrastructure are: (1) To provide sustainable and evolving cyberinfrastructure that is secure, efficient, reliable, accessible, usable, and interoperable; and (2) To provide access to world-class tools and services. The OCI supports activities in 4 categories as follows:

- High performance computing resources in 3 tracks: leading edge, national, and campus;
- Data, data analysis, and visualization;
- Virtual organizations and collaboratories;

- and learning and workforce development, including developing learning environments supported by cyberinfrastructure and exploring learning requirements

for the socio-technical design/evaluation and transformative application of cyberinfrastructure to science and engineering education.

Brief description of resources and tools available for sharing:

The Office of Cyberinfrastructure supports resources for capacity and capability computing in centralized and grid environments, the development of software tools and resources for science and engineering research and education, networks for collaboration and interaction across barriers of time and distance, and infrastructure for data management and preservation, and for education and training.

Brief description of integrative efforts:

Partnerships for Innovation Program: The goals of the Partnerships for Innovation Program within OCI (see

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5261&org=OCI&from=fund)

are to: 1) stimulate the transformation of knowledge created by the research and education enterprise into innovations that create new wealth, build strong local, regional and national economies and improve the national well-being; 2) broaden the participation of all types of academic institutions and all citizens in NSF activities to meet the broad workforce needs of the national innovation enterprise; and 3) catalyze or enhance enabling infrastructure necessary to foster and sustain innovation in the long-term. To develop a set of ideas for pursuing these goals, this competition will support 10-15 promising partnerships among academe, the private sector, and state/local/ federal government that will explore new approaches to support and sustain innovation.

Examples of interactions with other initiatives: The Office of Cyberinfrastructure supports activities at the supercomputer centers, at TeraGrid (see

<http://www.teragrid.org/>), and in the Internet2 consortium (see

<http://www.internet2.edu/>).

Opportunities for collaboration or synergy with the NCBCs:

Interactions in developing applications for petascale computational analyses, on development and adoption of terminologies and ontologies; sharing of approaches for developing catalogs and inventories; shared interest in approaches for resource identification.