Materials Research Science and Engineering Centers

Interdisciplinary materials research and education addressing fundamental problems in science and engineering that are important to society

Materials Research Science and Engineering Centers are supported by the National Science Foundation (NSF) to undertake materials research of scope and complexity that would not be feasible under traditional funding of individual research projects.

THESE CENTERS:

♦ require outstanding research quality, intellectual breadth, interdisciplinarity, flexibility in responding to new research opportunities, support for research infrastructure, and foster the integration of research and education in the materials field;

♦ address fundamental, complex problems of intellectual and societal importance,

♦ contribute to national priorities by fostering active collaboration between academia and other sectors, and

♦ constitute a national network of university-based Centers in materials research.

Center Characteristics

The MRSECs constitute a spectrum of coordinated Centers of differing scientific breadth and administrative complexity that may address any area (or several areas) of materials research.

♦ Each MRSEC encompasses one or more Interdisciplinary Research Groups (IRGs).

♦ Each IRG involves a group of faculty members, associated researchers and students addressing a major topic in materials research.

♦ In each IRG, sustained support for interactive effort by several participants with complementary backgrounds, skills, and knowledge is critical to progress.
Each MRSEC also incorporates most or all of the following activities to an extent commensurate with the size of the Center:

♦ Programs to stimulate interdisciplinary education, including research experiences for undergraduates accessible to students from other institutions, and the development of human resources (including support for under-represented groups).

♦ Active cooperation with industry, other institutions, and other sectors, including international collaborations, to stimulate and facilitate knowledge transfer among the participants and strengthen the links between university-based research and its application.

♦ Support for shared experimental facilities, properly equipped and maintained, and accessible to users from the Center and elsewhere.

Each MRSEC has the responsibility to manage and evaluate its own operation with respect to program administration, planning, content and direction.

NSF support is intended to promote optimal use of university resources and capabilities, and to provide maximum flexibility in setting research directions, developing cooperative activities, and responding quickly and effectively to new opportunities. To this end, NSF encourages MRSECs to include support for junior faculty, high-risk projects, and emerging areas of interdisciplinary materials research.

MRSEC Review and Awards
MRSECs are reviewed initially as pre-proposals, then by invitation as full proposals. NSF does not normally support more than one MRSEC based at any one institution. Awards range in size from about $1 million to $5 million per year and are made for an initial period of up to six years. Renewed NSF support will be awarded only on the basis of comprehensive, competitive merit review.

For more information:

http://www.mrsec.org

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5295