

Abstract for an Invited Paper
for the MAR09 Meeting of
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Opportunities for Funding at DOE

HARRIET KUNG, Director, Office of Basic Energy Sciences, Office of Science, U.S. Department of Energy

Dr. Harriet Kung will give an overview of the fundamental materials research activities at DOE Office of Basic Energy Sciences (BES). BES supports basic research in materials sciences, chemistry, geosciences, and biosciences, as well as the construction and operation of major scientific user facilities, including the nation's large synchrotron radiation-light sources, neutron-scattering facilities, electron beam microscopy centers, and nanoscale science research centers. The objective of the materials research program at BES is to support fundamental experimental and theoretical research that provides the knowledge base for the discovery and design of new materials with novel structure, functions, and properties. The main research elements of the program are: Condensed Matter and Materials Physics, Scattering and Instrumentation Sciences, and Materials Design, Discovery, and Synthesis. Each of the three program areas has a set of central program scope and goals, while there is close coupling and connection between the three elements. For example, in the condensed matter and materials physics including activities in experimental condensed matter physics, theoretical condensed matter physics, materials behavior and radiation effects, and physical behavior of materials research is supported to understand, design, and control materials properties and function. The activity emphasizes correlation effects, which can lead to the formation of new particles, new phases of matter, and unexpected phenomena. The theoretical efforts focus on the development of advanced theories and computational tools to treat large or complex systems. Information about the funding opportunities will be discussed in the presentation.

After the presentation, there will be an informational session for BES program managers to meet with researchers interested in research opportunities in BES. Specific information about proposal submission and proposal evaluation will be provided. For additional information, visit the BES Web page at: <http://www.sc.doe.gov/bes/bes.html>