

# Postgraduate Research Opportunity

## *Condensed Matter Theory Group, BNL*

The condensed matter theory group at BNL has an immediate opening for a postgraduate researcher to conduct frontier research in the theoretical investigation of electronic, optical and magnetic properties of condensed matter systems, using computational "first-principles" methods. The successful candidate will employ techniques of quantum many-body physics (time-dependent density functional theory, diagrammatic perturbation theory, quantum Monte Carlo, and renormalization group) for the study of materials of technical importance. The project also includes the development of novel "state-of-the-art" theoretical/numerical approaches to properly treat localized quantum many-body interactions in "strongly correlated materials" (e.g.: high-temperature superconductors, low-dimensional magnetic systems), in close collaboration with several other world-leading groups within the DOE CMSN framework.

Access to parallel computing resources including DOE supercomputer centers and local Beowulf clusters is available. The successful candidate should also benefit from fruitful opportunities of interaction with experimental groups in the Lab, as well as with world-famous visitors of the *Institute for Theory of Strongly Correlated and Complex Systems*.

Interested applicants should send their CV with list of publications and contact information for 2-3 referees to Dr. Wei Ku ([weiku@bnl.gov](mailto:weiku@bnl.gov)). For more information, see <http://www.cmth.bnl.gov/>.