Project Outline

The "Next-Generation Supercomputer" project, began in 2006 by MEXT, is a close collaboration between government, industry, and academia centered on RIKEN under a MEXT initiative, and carried out in a unified way in order to maintain Japan's lead in a wide range of fields including science and technology, academic research, industry, medicine, and pharmacy. It has the following objectives:

1. Develop a world-leading and maximum performance "Next-Generation Supercomputer";
2. Develop and distribute software to make maximum use of the Next-Generation Supercomputer (the "Grand Challenge Applications");
3. Construct a world-class supercomputing research and education base centered on the Next-Generation Supercomputer.

The RIKEN Wako Institute has been selected as the research and development base for "Grand Challenge Applications" in the life sciences, and is carrying out research and development for the "Next-Generation Integrated Simulation of Living Matter".

This promotes the research and development of simulation software which helps understand phenomena from molecules to entire organisms. We are trying to develop simulation software both from an analytic approach, where we will study phenomena through basic principles, and a data-analysis approach, where we will attempt to discover new processes and laws by analyzing large quantities of experimental data.

Core viewpoints set in order that this project contributes to life science are:

1. Development of application software aimed at use in the completed supercomputer.
2. Long-term "grand challenges" aimed at the construction of a basis for future life science unifying experiments and computer simulations to gain new knowledge for the first time.

Administration   As of October 1, 2008