Abstract

Information technology has been developing remarkably in both hardware and software. People are now closely interconnected through information networks which together form a complex and dynamic supra-network. One urgent challenge in this rapidly changing information society is the development of an entirely new concept: “humanware,” which is considered the third ware complementing hardware and software technologies. It addresses the flows of information linking humans and the resulting transformation of human relationships. To acquire skills related to humanware, it is essential to understand the “information dynamics” required to construct an information society attuned to both humans and the environment. It is also necessary to understand “cognitive dynamics,” the dynamics of higher brain functions for receiving, understanding, and generating information, as well as “biological dynamics,” the dynamics of biological systems to adapt to people and the environment. In this talk, I first discuss the importance of humanware for creating innovation in information technology, and then introduce our ongoing Humanware Innovation Program supported by the Program for Leading Graduate Schools of the MEXT (the Ministry of Education, Culture, Sports, Science and Technology in Japan). This program aims at fostering leaders to construct flexible, robust, and sustainable systems that support an ever-changing social environment based on the concept of humanware.