March 2021 Vol. 19 No. 3
NTT Technical Review 3 2021
https://www.ntt-review.jp/archive/2021/202103.html

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Naoki Tani, Executive Vice President, Chief Technology Officer, Executive General Manager of R&D Innovation Division, NTT DOCOMO

▼Overview

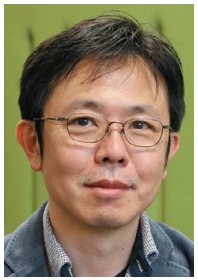
NTT DOCOMO became a wholly owned subsidiary of NTT at the end of 2020. With the launch of 5G (5th-generation mobile communication system) services, its business environment is undergoing a period of major change. Society is also changing due to the novel-coronavirus pandemic, such as acceleration of digital transformation and spread of remote working. We asked Naoki Tani, executive vice president, chief technology officer, executive general manager of R&D Innovation Division of NTT DOCOMO, about the company's efforts to address social issues using technology and how he communicates with employees in this period of change.

Front-line Researchers

Koji Muraki, Senior Distinguished Researcher, NTT Basic Research Laboratories

▼Overview

Researchers at the Quantum Solid State Physics Research Group of NTT Basic Research Laboratories focus on the many-body and correlation effects caused by the interaction between electrons as well as on quantum-mechanical properties of electrons such as wave nature, superposition state, and spin. By engineering and controlling these properties of electrons using the heterostructure and nanostructure of semiconductors and atomic-layer materials, the group is investigating quantum devices and sensing techniques that cannot be obtained with individual electrons. Such research is expected to enable the development of ultralow-power-consumption devices and highly sensitive sensors. We asked Koji Muraki, a senior distinguished researcher and leader of this group about the progress of his research and the attitude researchers should have.



Feature Articles
Media Robotics as the Boundary Connecting Real Space and Cyberspace

Toward Cyber-physical Interaction for Natural Connection of Real Space and Cyberspace

▼Abstract

To actualize the concept of IOWN (Innovative Optical and Wireless Network), we need a new "environment" for connecting real space and cyberspace that fundamentally changes our lives without needing to be literate in information and communication technology. Also essential is a natural means of incorporating that environment into our daily lives, which is to say a function for natural cyber-physical interaction. The following Feature Articles in this issue introduce the most recent technological trends concerning cyber-physical interaction at the boundary between real space and cyberspace.