

Nanophotonic devices could revolutionize the telecommunications industry

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This year's Julius Springer Prize for Applied Physics will be awarded to Professor Motoichi Ohtsu for his pioneering and seminal work on nanophotonics and near field optics as well as for the development of innovative nanophotonic devices, fabrications, and systems. Ohtsu is a world-renowned optical scientist and one of the leaders of the optics community. The award, accompanied by US\$ 5,000, will be presented on 22 September 2009 at the European Conference on Optical Communication (ECOC) in Vienna, Austria.

Nanophotonics exploits the local electromagnetic interaction between nanometric matter via an optical near-field. To analyze this interaction, Ohtsu pioneered a quantum optical theory based on the concept of dressed photons. He has devoted his work to establishing this novel theory and creating corresponding applications. His essential contribution is not only breaking the [diffraction](#) limit of light but also realizing that innovative optical science and technology would be impossible using conventional propagating light. Ohtsu's research in nanophotonics has the potential to revolutionize the telecommunications industry by providing low-power, high-speed, interference-free devices.

"The requirements for advanced communications and improvements in public welfare in the near future necessitate improved information processing and optical telecommunication systems, high-density optical memory, high-resolution displays and optical input-output interfaces," said Professor Motoichi. "To realize these requirements, the development of nanophotonic devices is an essential research area which

industry has recently recognized."

Motoichi Ohtsu received his Ph.D. in electronics engineering from the Tokyo Institute of Technology. He is currently Professor in the Department of Electrical Engineering and Information Systems as well as the Director of the [Nanophotonics](#) Research Center, both at the Graduate School of Engineering at the University of Tokyo. He has published 420 papers, has presented almost 90 invited papers at international conferences, and is the author, co-author, or editor of more than 50 books.

Source: Springer

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