

IWAMOTO LAB.

[Photonic Nanostructures and Topological Wave Engineering]

Nanoscience Center for Photonic, Electronics, and Materials Engineering
Nano Optoelectronics

Department of Electrical Engineering and Information Systems, Department of
Advanced Interdisciplinary Studies, Graduate School of Engineering

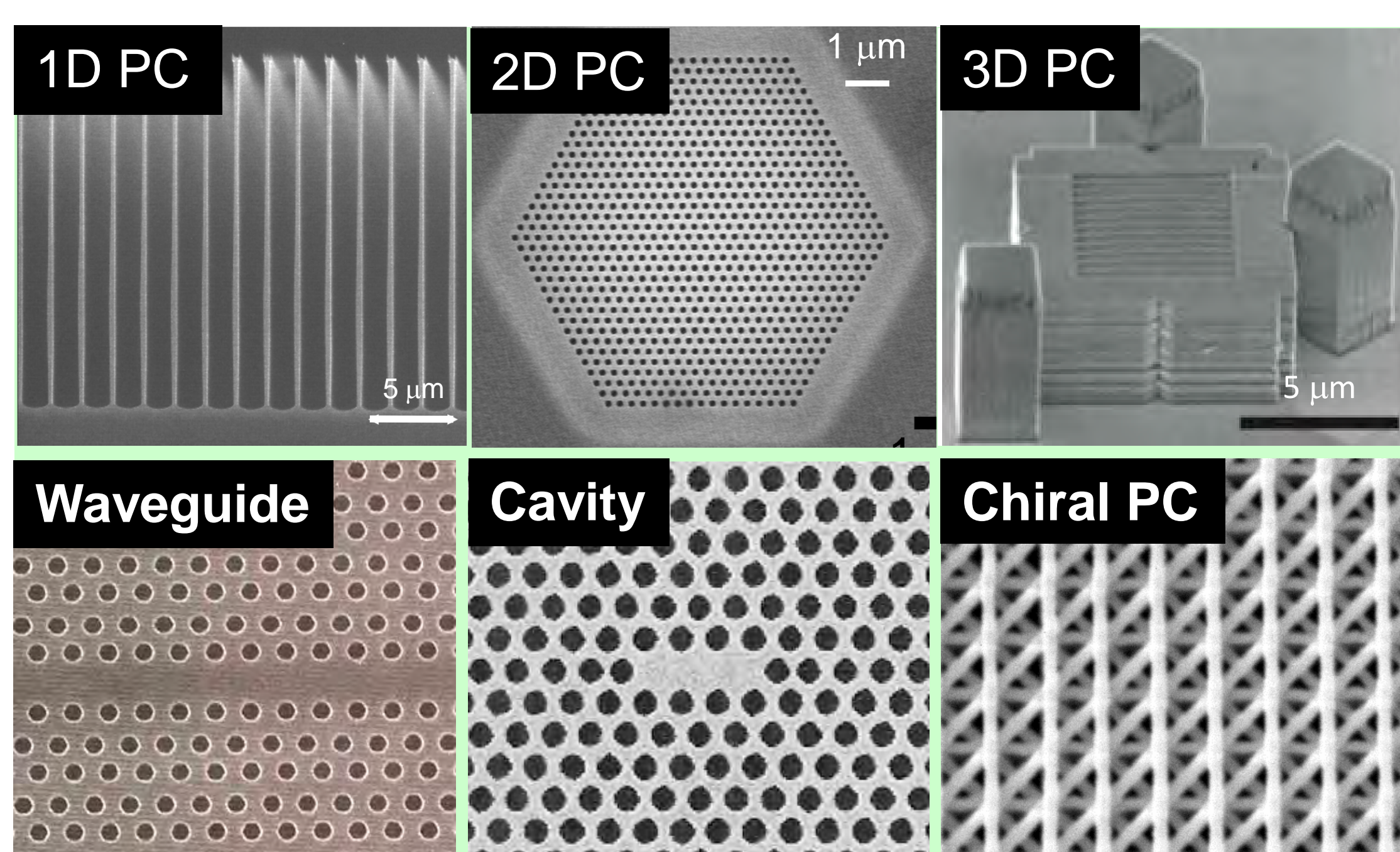
<http://www.iwamoto.iis.u-tokyo.ac.jp>

Control of Photons by Photonic Nanostructures and its Applications

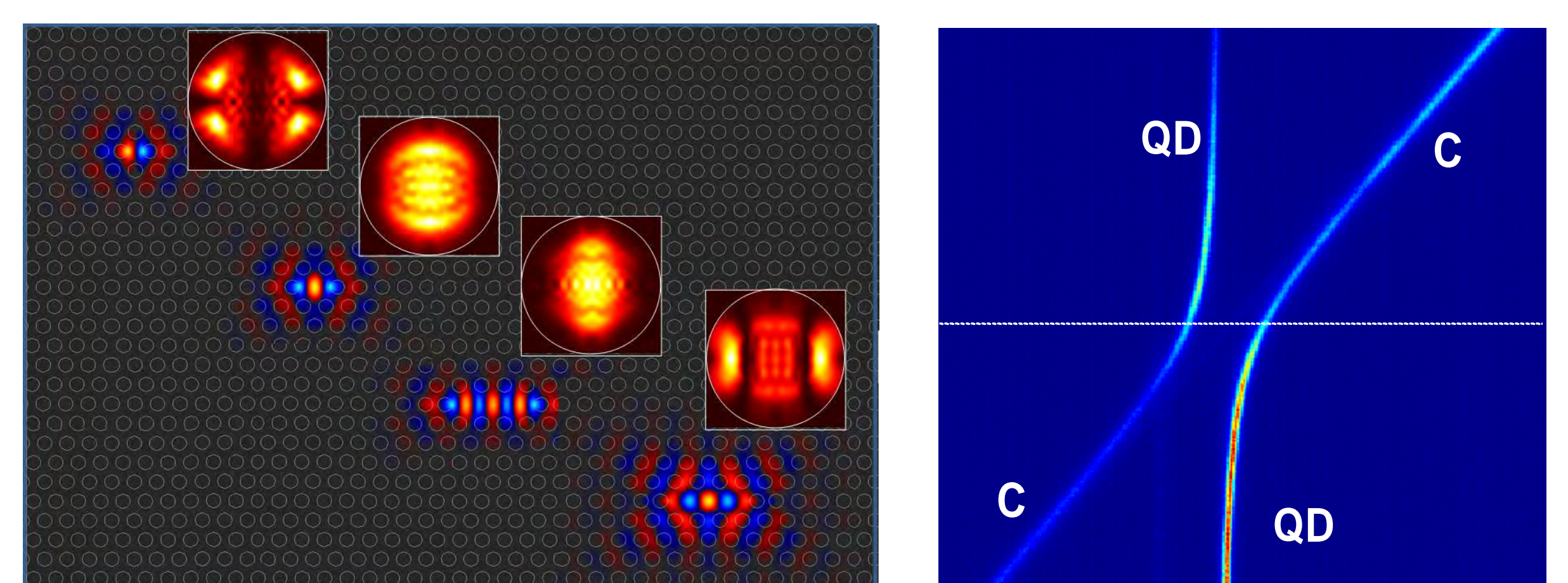
Overview: We are investigating photonic nanostructures including photonic crystals for realizing novel control of light and are exploring light-matter interactions in those structures for various applications. We are also studying topological wave engineering aiming at exploration and utilization of the topological properties of classical waves such as light, elastic waves, and sounds. We are collaborating with Holmes Lab and Quantum Dot Lab, Institute for Nano Quantum Information Electronics.

- Main research subjects:**
- Design and fabrication technology of photonic nanostructures
 - Control of light emission properties by using photonic nanostructure
 - Quantum optics and solid state cavity quantum electrodynamics based on photonic nanostructures
 - Control and application of angular momentum of light by photonic nanostructure
 - Topological photonics / phononics

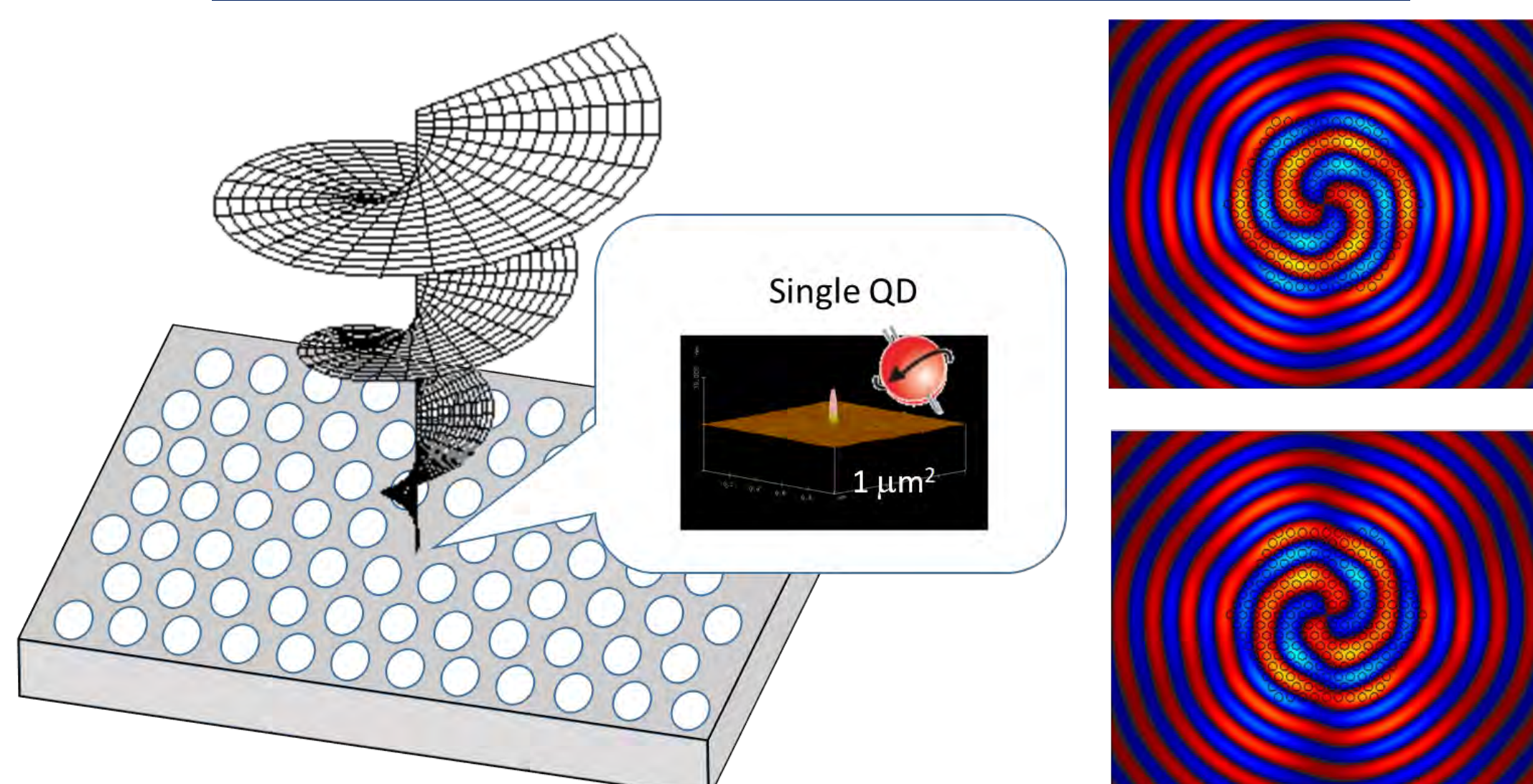
High Quality Photonic Crystals



Control of Light-Matter Interaction using Photonic Nanostructures



Control of Optical Orbital Angular Momentum and its Applications



Topological Wave Engineering

