Condensed matter and quantum optics are two fields of physics that attempt to understand the complexities of quantum systems. Condensed matter has traditionally taken a 'top down' approach, focussing on collective properties arising from the interactions of strongly-interacting, microscopic particles. Conversely quantum optics focusses on individual quantum systems and local readout. These approaches arise naturally from the relative interaction strengths and readout potential of the quantum particles. Recently, we have shown that it is possible to create a quantum optical system that is able to demonstrate an insulator to superfluid phase transition, analogous to the well-known Hubbard model from condensed-matter. This opens up the possibility of direct construction of complicated and interesting systems in an experimentally accessible medium, showing new features previously hidden from conventional analytical approaches. I will describe the solid-light system, and motivate its development with application to understanding quantum systems, quantum simulation, and perhaps even adiabatic and topological quantum computing.