# Photonic Crystals: A Review of How They Work and Current Applications

By Kevin Knabe

Photonic crystals are periodic structures that exhibit bandgaps in energy due to their structure. Calculation of the effects of these structures has been around since the 1970s, but implementation for the optical regime has not been experimentally achievable until recently. Methods for achieving this structure size in several different applications are discussed, along with a brief discussion on how photonic bandgaps are calculated. This review is largely based on Philip Russell's "Photonic Crystal Fibers", which appeared in Science Vol. 299, p. 358-362 (2003).