The photon is a fundamental entity of light having both wave and particle properties. When you gaze at the front cover, billions upon billions of photons illuminate it in a random fashion from natural light in the room. Photonics is the field of study associated with the science and engineering of controlling the generation, manipulation, and detection of such photons in an orderly fashion. Through this control, novel devices and systems can be developed to use the unique properties of light for applications such as optical communications, optical processing, radar systems, and laser remote-sensing systems. This issue of the Johns Hopkins APL Technical Digest features articles related to applications of photonics for these important areas of interest to APL.