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Sommario/riassunto	<p>The first nonlinear optical effect was observed in the 19th century by John Kerr. Nonlinear optics, however, started to grow up only after the invention of the laser, when intense light sources became easily available. The seminal studies by Peter Franken and Nicolaas Bloembergen, in the 1960s, paved the way for the development of today's nonlinear photonics, the field of research that encompasses all the studies, designs, and implementations of nonlinear optical devices that can be used for the generation, communication, and processing of information. This field has attracted significant attention, partly due to the great potential of exploiting the optical nonlinearities of new or advanced materials to induce new phenomena and achieve new functions. According to Clarivate Web of Science, almost 200,000 papers were published that refer to the topic "nonlinear optic*". Over 36,000 papers were published in the last four years (2015-2018) with the same keyword, and over 17,000 used the keyword "nonlinear photonic*". The present Special Issue of Micromachines aims at reviewing the current state of the art and presenting perspectives of further development. Fundamental and applicative aspects are considered, with special attention paid to hot topics that may lead to technological and scientific breakthroughs.</p>