



Special Issue Reprint

## Optical Signal Processing Technologies for Communication, Computing, and Sensing Applications

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Optical technology is one of the key technologies that have been widely used for communication, computing and sensing. By utilizing different degrees of freedom for photon, optical signals can be detected and processed in different dimensions including amplitude, phase, polarization, time, frequency, and spatial mode. Multidimensional signal processing technologies have thus been broadly studied for improving the performance of communication, sensing and even computing systems. Recently, innovative optical signal processing methods and devices have been emerged to serve those needs driven by applications including but not limited to optical fiber transmission, supercontinuum generation, phase conjugation, free space optical communication, optical beamforming, photonic integration, fiber amplification, pose estimation and so on. This Special Issue aims to explore those emerging and enabling technologies of signal processing methods and devices for optical communication, optical computing, and optical sensing. The Special Issue consists of two review papers, one communication and seven articles within the areas of optical fiber transmission, specialty fiber design, 3D pose estimation, free space communication, digital signal processing, as well as photonic integration. Optical signal processing powered next generation communication, computing and sensing can be highly



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