

# Chip-Scale Frequency Combs: Light Sources for Communications, Optical Ranging, and Ultra-Broadband Signal Processing

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Chip-scale optical frequency combs have emerged as novel light sources for miniaturized optical systems, offering the potential to disrupt a wide range of applications. In this talk, we will give an overview on our recent progress in exploiting Kerr comb sources and quantum-dash mode-locked lasers (QD-MLLD) for high-speed communications through massively parallel wavelength-division multiplexing (WDM), for ultra-fast optical ranging, and for ultra-broadband optical arbitrary waveform measurement (OAWM).