# Emerging Technologies for 3D Laser Rangefinder

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We review the recent development in 3D LIDAR technologies, including FMCW and AMCW [1]. In this talk, we will introduce several emerging technologies pursued in our laboratory. In particular, we will present our recent research in: (i) a novel non-mechanical 3D scanning system [2] using dispersion-tuned wavelength-swept fiber lasers [3] (Fig.1), (ii) time-coded correlation-based rangefinder [4] using high-speed optical sampling technique [5], and (iii) beam-forming techniques [6] for longer ranging distance.
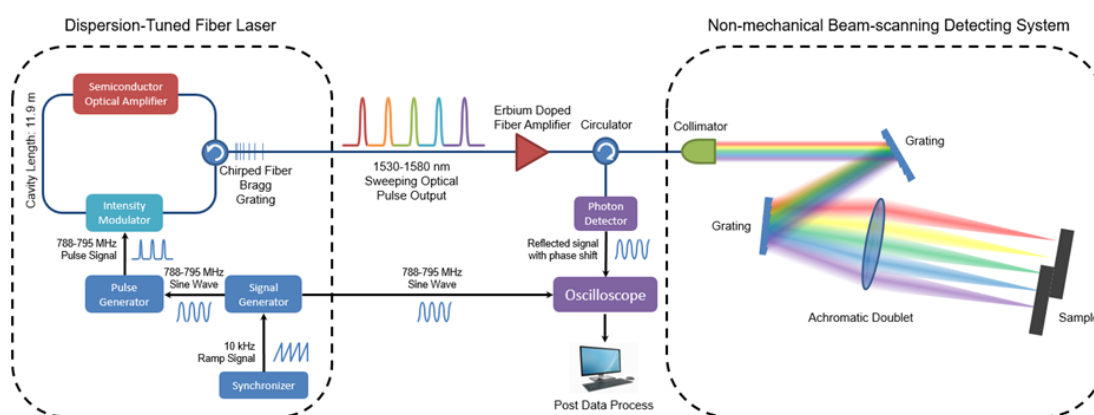


Fig.1: A non-mechanical 3D scanning system using a dispersion-tuned wavelength-swept fiber laser.

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