

Silicon Nitride Chip-Based Frequency Combs**Columbia Univ., °Yoshitomo Okawachi****E-mail: yo2268@columbia.edu**

The development of CMOS-compatible silicon technology over the past decade has provided a novel platform for nonlinear optical interactions, enabling a route towards chip-scale nonlinear photonic devices for a wide range of applications including spectroscopy, frequency metrology, and optical communication. The high optical confinement achieved in the silicon-based platform allows for large effective nonlinearities along with the ability to tailor the dispersion of the device which is essential for phase-matched nonlinear optical interactions. We will present our recent work on optical frequency comb generation in the silicon nitride platform, including microresonator-based Kerr frequency combs and supercontinuum generation in integrated waveguides.