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**Yuan Lou\*** (lou.8@osu.edu), 231 West 18th Ave, Columbus, OH 43210. *Persistence of a Single Phytoplankton Species in a Water Column.*

We investigate a nonlocal reaction-diffusion-advection equation which models the growth of a single phytoplankton species in a water column where the species depends solely on light for its metabolism. We study the combined effect of death rate, sinking or buoyant coefficient, water column depth, and vertical turbulent diffusion rate on the persistence of a single phytoplankton species. This is a joint work with Sze-Bi Hsu, National Tsing-Hua University. (Received July 08, 2012)