



# **Poster Session Abstract Book**

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### **The Effects of Hypoxia on Zooplankton Population Estimates and Migration in Lakes**

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Many zooplankton species typically exhibit diel vertical migration (DVM), where zooplankton migrate from the hypolimnion to the epilimnion of lakes at night. Zooplankton exhibit this behavior to avoid visual predators and UV radiation by remaining in the bottom waters during the day and ascending to the surface waters to feed on phytoplankton at night. However, hypoxic conditions in the hypolimnion of lakes may

interfere with DVM and force zooplankton to increase diel horizontal migration (DHM) to find predation refuge in littoral zones. Climate change and eutrophication are expected to increase the prevalence and severity of hypoxic conditions worldwide and thereby possibly alter zooplankton migration patterns. We hypothesize that hypoxia will force zooplankton to shift their migration patterns from predominantly DVM to DHM to avoid oxygen-depleted bottom waters. To test our hypothesis, we are conducting a standardized global sampling program to test whether pelagic, full water column estimates of zooplankton are greater at night versus the day under hypolimnetic hypoxic versus oxic conditions. Participants are aiming to sample at least one lake with an oxic hypolimnion and one lake with a hypoxic hypolimnion during the thermally-stratified period at midday and midnight. With our global dataset (currently expecting about 60 lakes in 22 countries), our goal is to improve our understanding of how global change may alter zooplankton migration behavior and patterns in lakes.