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Mechanisms of algal and microplastic particle motion in the feeding current of *Pseudodiaptamus pelagicus* ALETHA SPANG, JENNIFER KREFT PEARCE, Department of Physics, Roger Williams University — Plastic pollution and degradation are major problems for the health of marine food webs, due to the accumulation of microplastics in zooplankton biomass and magnification in successive trophic levels. As the amount of plastic pollution in marine ecosystems increases, calanoid copepods have been observed ingesting microplastic particles trapped in their feeding currents, resulting in reduced amounts of nutrients available per energy expended (Desforges et al. 2015). In this study, the copepod *Pseudodiaptamus pelagicus* will be filmed feeding on similarly sized unicellular algae and polystyrene beads. Particles will be tracked and analyzed for retention times, average speeds, and motion patterns. This technique will investigate the specific mechanics of particle motion close to the mouthparts of the copepod, and whether significant differences exist between food and non-food particles.

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