**Topic:** Mixing Potential of Hyperpycnal Flows as a Function of Their Density and Velocity

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The purpose of this research project is to determine the how much mixing will be induced by a hyperpycnal flow entering a stratified environment. To do this, a tank will be filled with two different fluids of distinctly different densities (called Solution A and Solution B) with the denser liquid being colored by dye (Solution B). Once the tank is clearly stratified, a hyperpycnal flow (Solution C) of greater density than Solution B, will be poured down an inclined plane into the tank and will flow through the boundary between solutions A and B. Solution C will be fresh water with silt and clay mixed into it to simulate a natural hyperpycnal flow that would result for an extremely high concentration of suspended particles. A camera will then measure the physical disturbance between the two layers induced by the hyperpycnal flow and how much mixing will have occurred.