Cluster 3 Project Topics 2011

A. Effects of temperature on respiration.
This experiment examines the impact of three thermal settings on respiratory and cardiovascular changes in an aquatic organism. Surrogate stress marker, ammonium production, will also be determined. The goal is to determine the physiologic responses against the animal's native setting.

Alison Fatima Tiffany Kim

B. The impact of acidification on oxygen production on an aquatic plant or metabolism in an aquatic animals.
The objective of the study is to measure oxygen production in an aquatic plant over a range of light intensity and acidified medium. Or oxygen consumption of an aquatic crustacean over a range of acidified medium and thermal gradient. The goal is to determine how these two factors (acidification and light on plants or acidification and temperature on the crustaceans) influence their physiology. (it's a plant or animal study).

Arthur Andrew Cassie Mariela

C. Factors impacting characteristics of circulation in a rotating tank. This study will investigate how changes in rotation rate and temperature difference cause the circulation in a rotating tank to be uniform or wavy. The experiment mimics Earth's steady Hadley circulation and waves in the unstable jet stream.

D. Factors impacting characteristics of circulation in a rotating tank. This study will investigate how changes in fan strength and sloping bottom impact the circulation in a rotating tank. The experiment mimics the wind-driven gyre circulation of the ocean and currents like the Gulf stream.

David Rui Ren Cristina Matt

E. Secondary particle formation from "air purifiers". This study will investigate how electric "air purifiers" change the concentration of particles in the indoor conditions. The experiment will compare two commercial air purifiers and will look at particle light scattering and FTIR chemical composition.

Alexis Angel Charles Anzel

F. Secondary particle formation from household cleaning solutions. This study will look at the production of particles from scented and unscented household cleaning products using light scattering and FTIR chemical analysis.

Lexius Alexandria Maribel Evelyn