

Freshwater Algae Research Ideas

Overarching Questions:

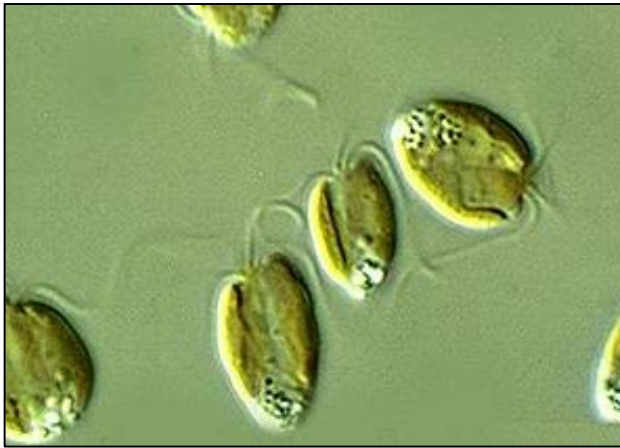
- ❖ How big of a concern are toxic algae blooms - both ecological and human health?
- ❖ What makes them bloom and become toxic?
- ❖ How can we better control them?



Freshwater Algae Research Ideas

- ▶ What are nutrient thresholds and modifying factors resulting in a bloom of cyanobacteria in Lake Elsinore and Canyon Lake? How does temp, pH, and conductivity affect these thresholds?
- ▶ Life cycle dynamics of cyanotoxins - what induces them to start producing toxins - environmental cues, or stress, or just a natural part of their lifecycle? Often blooms appear to start out without producing toxins but later we see levels increase. Gene expression work would be informative here.
- ▶ Are cyanobacteria toxic to freshwater invertebrates and fish at documented bloom concentrations? Lethal and sublethal effects? Physical or toxicological effects?

Freshwater Algae Research Ideas



- ▶ Do cyanotoxins accumulate through the food chain - impacts to fish from consuming daphnia, copepods, daphnia, and rotifers?
- ▶ Golden algae toxicity. For the first documented time this past winter Lake Elsinore had a bloom of golden algae *Prymnesium parvum*. This bloom of a true unicellular algae is very toxic to fish and caused a major fish die off this past winter. What are the specific conditions that triggered this bloom and is this a new threat to the system?

Freshwater Algae Research Ideas

9/23/2019

Research Institute | United States | Boz Life Science Institute



Method

Team

Projects

Publications

Collaborators

Summer Cohort

Contact Us

Boz Life Science Research and Teaching Institute



First student cohort at their poster presentation session!

Providing Applied Science Education and Workforce Development Through Practical Research Projects

What happens to our cells as we age? Why are female and male brains different? What is in your drinking water? Is your local ecosystem healthy? Could yeast be more intelligent than humans?