

## CALIFORNIA STATE SCIENCE FAIR

## 2001 PROJECT SUMMARY



**Your Name** (List all student names if multiple authors.)

**Daniel R. Zimardi**

**Science Fair Use Only**

**S1223**

**Project Title** (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

**Acclimation of the Marine Dinoflagellate Pyrocystis  
fusiformis to Physical Stimulations**

**Division**

**S Junior (6-8) S Senior (9-12)**

**Preferred Category** (See page 5 for descriptions.)

**12 - Microbiology**

**Abstract** (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

My objective was to study the acclimating behaviors of marine dinoflagellates. My method was to subject the cultures of dinoflagellates to a physical stimulation and time how long they bioluminesced. Then I would wait five minutes and test again noting any change in the time that they would bioluminesce. Then another experiment was to test one stimulation and then wait five minutes and test a different one. I kept the organisms in eight flasks with 20 ml of them in each one. The result of my experiment is such that the dinoflagellates do acclimate to one stimulation over and over, due to a decrease in bioluminescing time, but they do not acclimate to one and then to another. In other words they can't tell the difference between two stimuli in a consecutive trial. This project was an experimental study so I hope that my results can be applied to many other sciences such as bio-medical or pharmacology. With my results I can further expand my knowledge of dinoflagellates by doing other tests such as seeing if they react to a pollutant in the water and then react differently to a different pollutant.

**Summary Statement** (In one sentence, state what your project is about.)

To study the acclimating behaviors of marine dinoflagellates.

**Help Received in Doing Project** (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Dr. Bruce Harger from Sunny Side Sea Farms helped me with occasional questions.