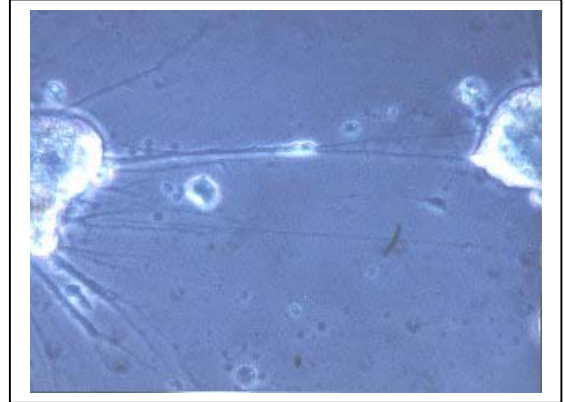


# MOLLUSK ORGAN STUDY PROJECT (MOSP)

## **Background Information and Project Justification**

Functional morphology involves studying cells and tissues, organs, or organ systems to understand how their shape and form allow them to function. This knowledge is important to all aspects of basic biology. All biological systems must operate within limits imposed by physical and chemical processes. Therefore, the architecture of the cellular and organ design must conform to these principles. By studying cellular or organ designs, one can gain information about how they function, and also about how they might have evolved.



## **Hermissenda Neurons in Culture**

### **Primary Objective:**

This project involves research exploring the functional morphology and ultra structure of various organ structures in mollusks. The process of metamorphic induction by natural and artificial inducers is also being explored. Concurrent studies include cytochemical investigations of the  $\text{Ca}^{2+}$ /GTP binding protein, calexcitin, and its modulation with learning and lead exposure, as well as its role in short and long term memory.

### **Resources Available for this Project:**

- 24 hour access to the MBL library.
- Access to an MBL computer terminal for literature/web searches.
- Limited wet-lab space.
- Availability of specific MRC general use equipment; scales, water quality test kits etc..
- Study organisms.

### **Skills Required:**

- Ability to perform extensive literature searches, web and library card catalog.
- Some experience with molecular techniques.
- Accurate record keeping skills (written weekly progress report required).
- Ability to work independently with minimal supervision.

**Estimated Time Commitment:** Students can work on this project on a flexible schedule. It would be necessary to have blocks of time available of a minimum of two hours at a time to do this work.

**Project Supervisor:** Dr. Alan Kuzirian.