

BIOSPHERE

The Weekly Bulletin of Biology

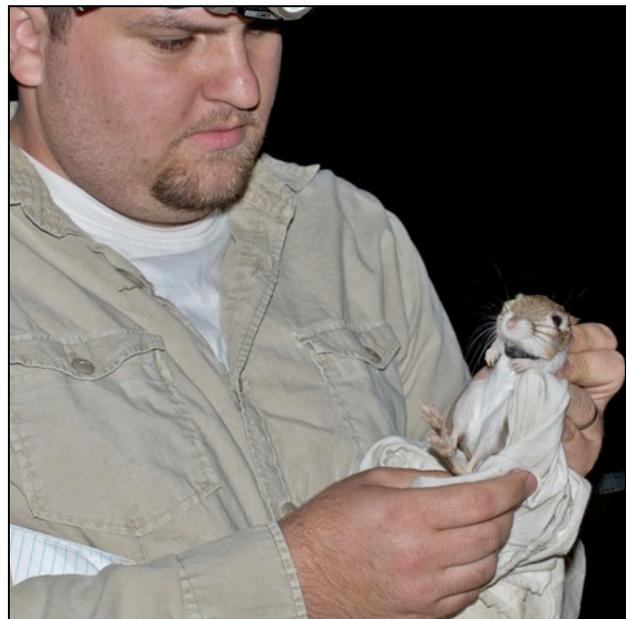
No Biology Colloquium this week in honor of Veteran's Day

New Publication

This week in the prestigious journal *Nature*, **Dr. Rachel Mackleprang** and her colleagues have a paper titled, "Metagenomic analysis of a permafrost microbial community reveals a rapid response to thaw."

Take Wildlife This Spring

For the first time in three years, **Dr. Tim Karels** will be offering Wildlife Ecology and Management. For students preparing for careers in state and federal natural resource agencies, this is a must-take course and the only one of its kind in southern California. Students will learn to use the scientific method to solve problems in conservation and management of wildlife (including fishes) by applying ecological principles and methods of gathering and analyzing data collected from the field and the literature. In the lab, students will learn how to develop and use mathematical models of population growth, viability, and harvesting rates, which they will apply in developing their own Species Recovery Plans. BIOL 428/L/492W will be taught MW 8 am–12 noon with some weekend field trips. The course fulfills the B.A. requirements for an Ecology/Environmental Biology and field studies class, or it can be used for the Ecology requirement for the Environmental Biology B.S. or Marine B.S. Graduate students may take the course as an elective.



Graduate student **Stephen Etter** with an endangered giant kangaroo rat (*Dipodomys ingens*) outfitted with a miniature radio transmitter.

Graduate Seminars next Semester

Dr. Chhandak Basu will teach a Seminar in Biotechnology on Fridays from 11 am–2 pm. Biotechnology is a rapidly expanding field. This class will provide participants with information on new developments, discoveries, and cutting-edge tools. Students will critically review and present recent publications from the top biotechnology journals and participate in classroom discussions. The course will also cover some of the issues related to public perceptions of genetically modified

organisms in agriculture and health sciences.

Dr. Ray Hong is in charge of a Seminar in Genetics on Wednesdays from 11 am–2 pm. Genetics is the study of information in biological systems. The goals of the seminar shall be to engage in a deeper understanding of modern genetics through reading, discussing, and the presenting of primary literature on select topics and to identify areas of active research. Students will be asked to recognize how new genetic paradigms are constructed through hypotheses testing and experimental design. The group will consider how frontiers in genomics and synthetic biology influence our concepts of genetics.

Dr. Paul Tomasek will teach a Seminar in Microbiology on Mondays from 5–8 pm. This seminar will focus on the widespread and interesting diversity of symbiotic relationships in which at least one partner is microbial. Tomasek will present topics for the first few weeks to allow other participants to prepare their presentations. Each student will give two or three seminar presentations that cover an overview of the specific symbiosis being discussed as well as current research on the chosen topic. Each presentation will be 30 minutes long. All papers will be read by all participants in advance of the presentation.

Dr. Cheryl Hogue will lead a Seminar in Morphology on Fridays from 9 am–12 noon. The seminar will focus on host–parasite relationships, particularly how parasites manipulate phenotypic traits of hosts, including alterations in morphology, physiology, and behavior. Students will review recent journal articles in the field, present the articles, and participate in discussion of research papers. A major goal of this seminar is to provide students with a better understanding of parasites and why parasitism is an interesting and a successful strategy for many forms of life.

Bermudes funded by CSUPERB

RNA interference (RNAi) is a recently discovered mechanism of gene silencing with promising therapeutic potential. **Dr. David Bermudes** received an *Entrepreneurial Joint Venture Matching Grant* of \$25,000 from the CSU Program for Education and Research in Biotechnology (CSUPERB). His lab will develop single-stranded bacteriophage for delivery of small interfering RNA (siRNA) to eukaryotic cells for the treatment of various diseases. The grant represents a collaboration with colleagues at the Harvard Medical School spin-off company, ViThera Laboratories, who will test the phage for therapeutic efficacy against cancer.

Talk Given at Ichs and Herps

Natalie Martinez-Takeshita spoke on “Global genetics of yellowtail” at the Joint Meetings of Ichthyologists and Herpetologists in Minnesota.

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