



California State University, Los Angeles

SCIENCE SERIES

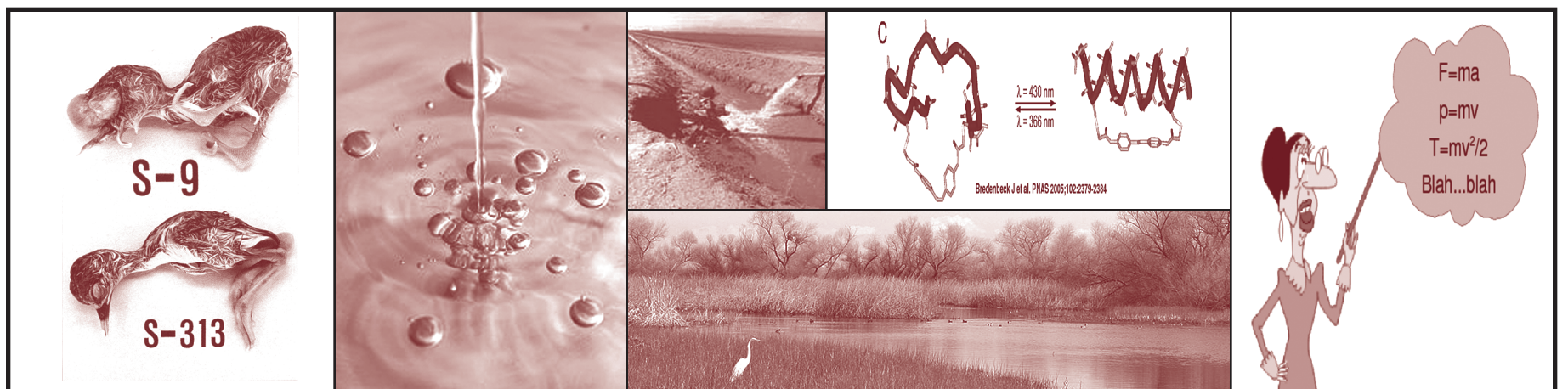
SCIENCE SERIES LECTURES WINTER/SPRING 2010

Chromium and selenium are nutrients at low concentrations but are toxic at high concentrations and can reach high levels in groundwater and surface water. Present techniques of monitoring the concentrations of these elements can be time consuming, relying on analysis of water plumes using many years of data. Professor Andre Ellis will describe a novel method of quickly determining the concentration of these contaminants by using isotopic ratios of these elements.

Mucosal innate immunity is our first line defense against invading microbes on our inner body surfaces such as the respiratory tract. Recently, we have discovered that fats are among our antimicrobial weapons and have begun to explore their role in innate immunity. Professor Edith Porter will discuss her research which seeks to answer questions whose answers may lead to the development of novel anti-infectious drugs.

The strong and specific attraction between two molecules is called molecular recognition. These molecular interactions are fundamental, and occur extensively in living organisms. Professor Alison McCurdy will showcase some of the research in molecular attraction performed by CSULA students and a postdoctoral fellow working in her laboratory. Research areas include the design and study of photoresponsive molecules that specifically attract metals and molecular attractions that stabilize the structure of biological molecules. The new knowledge created as a result of research in these areas should impact fields such as materials science and pharmaceutical design.

Despite the engaging and masterful lecturing styles of some famous physicists, students leaving these lectures have often been unable to apply, or even remember the concepts they heard presented in the lectures. Professor Albert Lee will present the history of Physics Education Research in the United States, including some research traditions, findings, and examples of curricula based on this research.



LECTURE SERIES – FALL 2009

presented by

THE DEPARTMENT OF PHYSICS AND ASTRONOMY

All lectures will be on Wednesday evenings at 8 p.m. in the Physical Sciences Building, room 158. Lectures are free and open to the public. Metered parking is available adjacent to the Physical Sciences Building in Parking Lot B and in parking structure adjacent to the Luckman Theatre.

<u>FACULTY SPEAKERS</u>	<u>DATES</u>	<u>LECTURES</u>
Andre Ellis	February 10	<i>Monitoring Chromium and Selenium Contamination — Novel Isotope Methods</i>
Edith Porter	March 10	<i>Fats to the Defense! — Antibiotic Effects of Host Derived Lipids</i>
Alison McCurdy	April 14	<i>Molecular Attractions: Peptides and Photoswitches</i>
Albert Lee	May 12	<i>Physics Education Research: A Scientific Approach to Physics Learning</i>

Contact the Department of Physics and Astronomy, at (323) 343-2100, or physics@calstatela.edu for more information.



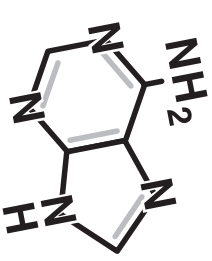
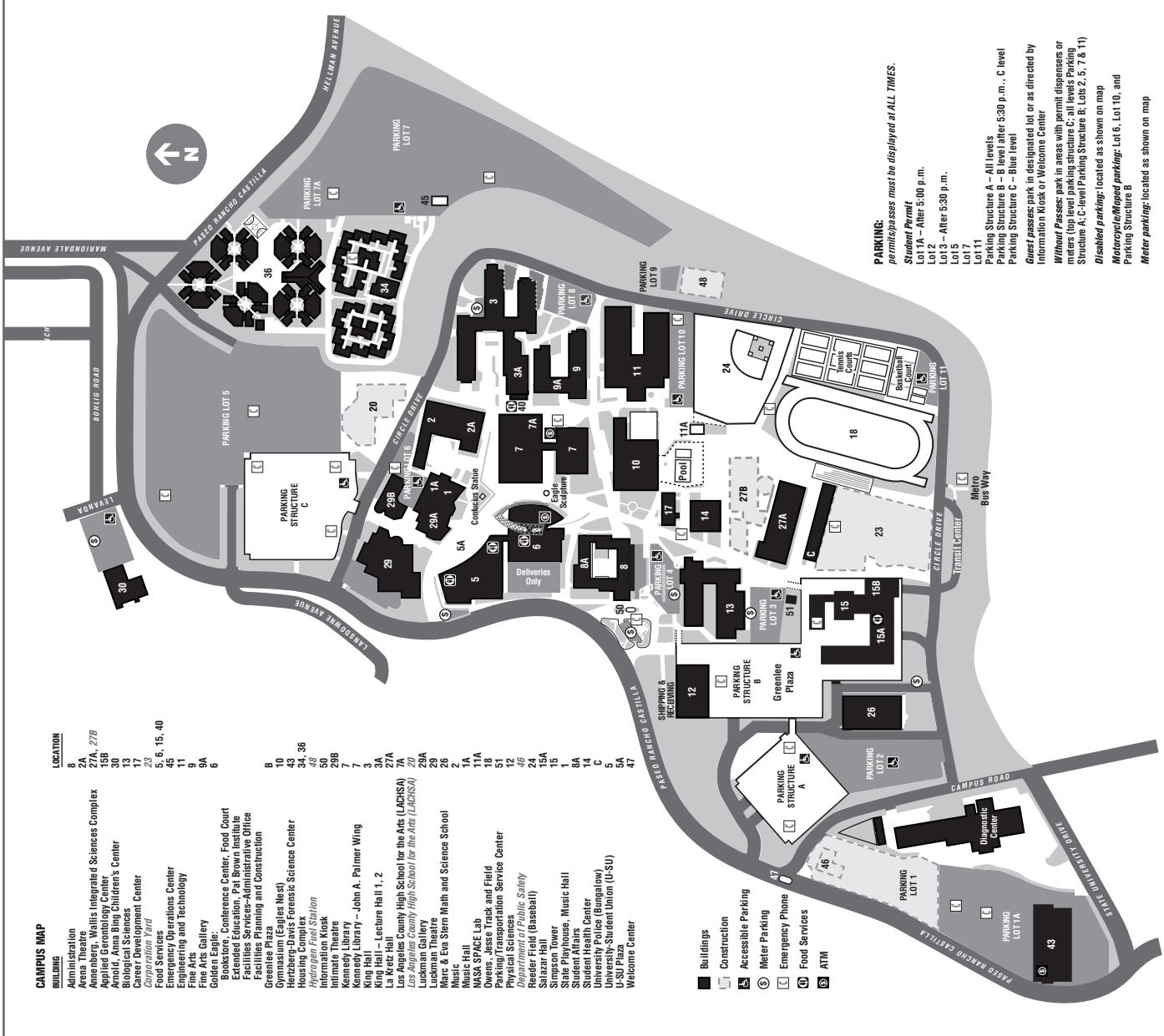
California State University, Los Angeles



Directions to Cal State L.A.

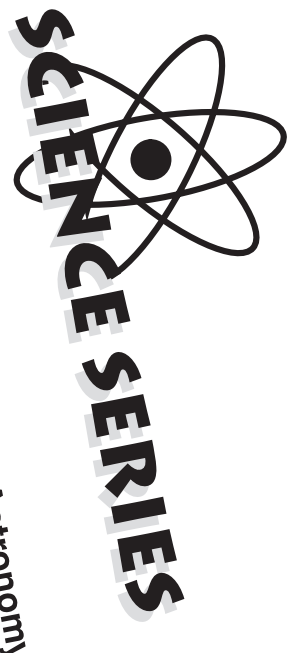
The University is located five miles east of the Los Angeles Civic Center at the interchange of the San Bernardino (10) and Long Beach (710) freeways.

- Long Beach Freeway (northbound) exit at Ramona Boulevard
- San Bernardino Freeway (east & westbound) exit at Eastern Avenue
- Valley Boulevard (east & westbound) turn south on Mariondale



$$H\Psi = i\hbar \frac{\partial \Psi}{\partial t}$$

presented by the
Department of Physics and Astronomy.



California State University, Los Angeles
Department of Physics and Astronomy
5151 State University Drive
Los Angeles, CA 90032

