

## Academic Plan

2008-2013

### UCD Dept. of Entomology

This document addresses the most pressing faculty needs in the Department of Entomology. The full Academic Plan, as requested, will be forthcoming in the next ~2 to 3 months. The delay in preparing the full document has been necessitated by the change-over in administration in the department and, more particularly, by the three ongoing recruitments in the department. The complete academic plan will be influenced greatly by the results of these recruitments; at this time, two of these recruitments are complete (one successful and one failed search) and the third search appears to be reaching a successful conclusion. We also need to give careful thought to the 5-year plan taking into consideration the anticipated faculty retirements in the department (of which there could be 4 to 6) and an analysis of the future direction of the field of Entomology. Towards this latter need, the department, under the tenure of Walter Leal as Chair, undertook an examination of future directions in entomology through a series of lectures and discussions from distinguished U.S. entomologists during 2007-08. This information set the stage for critically scrutinizing the field but this activity has not yet been completed. Clearly entomology remains a vital and crucially important discipline. The Dept. of Entomology at UC Davis is the top rated entomology department in the U.S., and it has diverse strengths in insect systematics and evolution, insect behavior and ecology, applied entomology, and insect physiology and toxicology. However, the goal of this endeavor was to position the department for new research areas within the field of entomology and overall biological sciences, while still addressing our traditional clientele and “entomological roots”. Therefore, these actions will be completed and utilized to develop the final document. *Please consider this an interim academic plan*; these two proposed faculty positions have been in our previous academic plans and are clearly high priority needs in the department. To this end, these two proposed positions were discussed at a recent faculty meeting (1 Aug. 2008) and received unanimous support of voting faculty meeting attendees (one abstention).

#### Insect Molecular Biologist

An insect molecular biologist (Assistant Professor, 25% research in the Agriculture & Environmental Sciences and 75% instruction & research) is the top faculty need in the Department of Entomology. This position was approved and a search was conducted in 2007-08 but resulted in a failed search. Since the untimely death of Dr. Susuma Maeda in the mid-1990's, this has been a critical need in the department. The lack of an insect molecular biologist has hindered graduate student education in this extremely relevant area as well as interdisciplinary research in the department and cross-campus. The responsibilities of this position will be to develop a creative, independent, and productive research program in the area of insect molecular biology. The broad aim will be an improved understanding of

relationships between genome function and phenotypic expression. Examples of research emphasis areas include, but are not limited to, insect development, neurobiology, behavior, comparative genomics, and insect interactions with organisms ranging from symbionts and pathogens to plants and vertebrates. It is expected that the candidate will be an interactive member of the Department of Entomology, and participate in biotechnology and/or genome programs on campus. The appointee will be expected to teach at the undergraduate level in molecular biology and related areas, and to develop a graduate level course in his/her area of specialization. Supervision of graduate students, student advising, participation in outreach programs, curricular development, and performance of university service will be expected.

### Honey Bee Biologist (Apiculturist)

The second priority for a faculty position in the Dept. of Entomology is for a honey bee biologist. A pollination biologist was recruited in 2007-08 (the search appears to be successful but the acceptance is still pending). This position was part of an eight-position cluster recruitment in the College associated with the Agriculture Sustainability Institute. The expected appointee has significant strengths in native bees and pollination and will be an excellent fit within the Institute. This individual will contribute to studies on pollination and will interact with personnel in the UCD Bee Biology Program. However, this still leaves a significant void in the apiculture/honey bee biology area. Honey bees are the mainstays of managed pollination and vital to the agricultural economy in California as some 90 different crops (valued at over \$6 billion) require honey bee pollination. In addition, the indirect value of pollination, e.g., alfalfa seed production, that ultimately enables alfalfa that feeds dairy and beef cattle, is also critically important. Honey bee production has been compromised in recent years by a condition known as honey bee decline or colony collapse disorder. A solution for the malady is presently unavailable and many classify it as critical. The Department seeks a Honey Bee Biologist (Apiculturist) at the Associate Professor level (20% AES research and outreach, 80% instruction and research). The appointee will develop an extramurally funded research program on honey bee biology (emphasizing areas such as, but not limited to, ecology, pathology, microbial ecology, genetics, chemical ecology, and/or parasitology) and pollination with emphasis on California agricultural systems pertinent to the AES mission. The appointee will teach core curriculum courses, supervise graduate students, participate in outreach programs, and perform University service. Given the high priority need for this position and the current high profile of honey bee disorders, the demands for interfacing with several California agricultural industries, and the expectation to provide leadership for the Bee Biology facility, we believe the appointee should be at the Associate rank.