The successful candidate will work with Neal Williams at University of California Davis and Elizabeth Crone at Tufts University on a collaborative NSF-funded project exploring the effects of resource dynamics on colony and population dynamics. The project combines field experimentation with statistical and demographic modeling and is an opportunity to build strength in all of these areas. The postdoc will oversee rearing of experimental bumble bee colonies in lab and field and then work with a research team to collect data on colony life-history and demographic responses to resource pulses occurring at different times in the colony cycle. This position is based in the Williams lab at UC Davis, and field work will be in the Central Valley of California (on or near the UCD campus). Preference may be given to candidates who have interest and aptitude in participating actively in the modeling aspects of the project, including travel to work with Elizabeth Crone at Tufts University during the non-field season.

Background:
In the past decade, there has been a groundswell of interest in the effects of landscape change on pollinator populations and communities, especially those of bees. This interest is fueled by concerns over pollinator declines and implications for plant pollination globally. The vast majority of research in this area uses patterns of pollinator abundance to infer causal relationships between environmental conditions and population dynamics. Such studies continue, in spite of the fact that ecologists have long known that abundance can be a misleading indicator of habitat quality (Vanhorne 1983). For mobile taxa, such as bees, abundance surveys do not distinguish changes in activity density from changes in population size. This distinction is important because the two have different implications for long-term population viability. Interpretation of abundance surveys is even more problematic for social bees, for which short-term changes in worker abundance are not necessarily associated with colony reproductive success. We will develop a demographic framework to understand mechanisms by which one major component of landscape change, variation in the abundance and timing of floral resources, affects population dynamics of bumble bees (Bombus spp.).

Decoupling of foraging activity and population size is especially likely under resource pulses. We will use a demographic framework to evaluate how bumble bees respond to resource pulses. Our analyses will include life history variation, phenotypic plasticity and transient dynamics that may be key determinants of population responses to landscape change. This research is a significant advance from the correlative approaches that have been widely used to assess bee response to landscape change, which assume static relationships between landscape features and bee abundance.

Qualifications:
Minimum qualifications are a Ph.D. in Ecology or related field (all degree requirements completed by the start of employment), and experience rearing insects in field or laboratory conditions, especially Bombus. Preference may be given to candidates with a demonstrated ability to publish peer-reviewed journal articles, knowledge of life history theory, and interest in ecological modeling and statistics.

Salary and conditions
Full-time salary (~$45,000 US) and benefits included. Exact salary rate dependent on experience
Start date: Nov – Dec, 2014 (some flexibility-please ask)
Duration: 2.5 years. Potential to continue will depend on ability to obtain funding through competitive grants written collaboratively with Crone and Williams.

Applications
Applicants should send their formatted cover letter, CV, a 1 page summary of research interests, and the names (with email address) of at least two references to the email address given below (in one pdf file!) as soon as
possible, but latest September 25, 2014 for full consideration. Late applications will be accepted until position is filled.

For further information, please contact:
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