

**Open Non-Senate Position at the U.S. Salinity Laboratory (USSL)  
University of California, Riverside**

The U.S. Salinity Laboratory (USSL) is planning to hire a candidate to fill an open position in the Department of Environmental Sciences at University of California, Riverside. The incumbent will conduct independent research in the field of plant stress biology. Initial work involves evaluation of salt tolerant almond rootstocks and characterization of genetic mechanisms responsible for salt tolerance. The successful candidate will perform RNA-seq analysis and quantitative RT-PCR to study expression changes in response to salt stress. Research includes functional characterization of salt tolerance genes from crop plants such as almonds and alfalfa using *Arabidopsis* as a model system. The research will involve cloning in *E. coli* and other bacteria, plant transformation, genotyping and mapping. Experience with cloning and *Arabidopsis* transformation is highly desirable. The incumbent needs proficiency in molecular techniques, such as primer design, gene cloning, expression analyses, quantitative PCR, genetic transformation and sequence analysis. Duties also include, supervising hourly and other technical support staff, and record keeping and progress report development.

This position requires Ph.D./M.S. in plant genetics, breeding, crop science, plant biology or a related field, potential to publish and disseminate research through presentations.

The USSL scientists are currently working on linking biochemical and physiological responses of almond rootstocks with the underlying genetic mechanisms, which are the key in developing genetic material tolerant to salt. In almond, rootstock plays a major role in the success of a variety. There is limited research conducted to evaluate a large number of rootstocks under variable salt concentrations. The link between variation for salt tolerance and the genetic mechanisms leading to that variation is essentially missing. Although putative genes have been predicted based on the DNA sequence and annotated for possible function based on protein homology, the functional characterization of genes involved in salt tolerance in almonds is still lacking. Almond growers will benefit from identification and development of salt-tolerant rootstocks as these rootstocks could sustain crop yield when irrigated with waters of higher salinity than currently used. This research fills a critical knowledge gap in identification and utilization of salt tolerant rootstocks in almond breeding.

The U.S. Salinity Laboratory (USSL) (<https://www.ars.usda.gov/pacific-west-area/riverside-ca/us-salinity-laboratory/>) is a National Laboratory for basic research on the chemistry, physics, and biology of salt-affected soil-plant-water systems. Scientists at USSL develop, through research, new knowledge and technology dedicated to the solution of problems of crop production on salt-affected lands, water reuse for irrigation, and degradation of surface- and ground-water resources by salts, toxic elements, pesticides, and pathogens released from animal wastes. Many of our scientists are recognized leaders in their respective fields. USSL is located on UCR campus (450 WEST BIG SPRINGS ROAD, Riverside, CA 92507).

Interested candidates should send their CV and a brief statement of experiences and research interests to Dr. Devinder Sandhu, ([Devinder.sandhu@ars.usda.gov](mailto:Devinder.sandhu@ars.usda.gov); 951-369-4832; <https://www.ars.usda.gov/pacific-west-area/riverside-ca/us-salinity-laboratory/people/devinder-sandhu/>). Screening of applications will initiate on **November 12, 2018** and will continue until the position is filled.