

Dear Friends and Colleagues,

I am writing to ask you to help me identifying an individual for a postdoc in my group. This postdoc position is immediately available and mainly for a wet-lab scientist although the person will have an opportunity to be trained in dry-lab as well if he/she is interested. It is a full time position with a starting salary of \$47,476. It is a one-year appointment, annually renewable up to 3 years total.

The individual must have a Ph.D. in molecular biology, genetics, biochemistry, or a related field, training in gene cloning, mRNA expression analysis, and other molecular biology techniques, and a publication record demonstrating his/her research competence. The individual should perform well both as an independent researcher and in a team-environment. Research experience with plant systems, particularly rice and/or Arabidopsis, is highly desirable. Research experience in plant-microbe interactions is also desirable. Although the main responsibility of the individual will be wet-lab research, some dry-lab research experience, such as expression profile and comparative genome analyses, is a plus.

The main projects for the individual will be (1) Investigate the state of the rice immune signaling network and (2) Investigate spatial signaling during immune response in Arabidopsis. Each of the projects is supported by an NSF grant. In Project (1), a network reconstitution study will be conducted in rice which is similar to what we have done in Arabidopsis (Tsuda et al. 2009 PLOS Genet; Kim et al. 2014 Cell Host Microbe; Hillmer et al. 2017 PLOS Genet). Generally, key components of the immune signaling network are conserved in angiosperms. However, it does not guarantee that the network state is also conserved. The purpose of this research is to investigate the network state in rice to compare with those in Arabidopsis and tomato. The required rice genotypes will be generated using CRISPR/Cas9, and transformation of rice will be outsourced. In Project (2), the person will generate transgenic lines in Arabidopsis, in which recombination events are induced by a laser. In this way, spatial genetic heterogeneity can be created in a laser-guided manner. This technology will enable to ask, for example, what kind of signals are transmitted from a group of cells to another group in a tissue. We are interested in elucidating cellular communication between the cells directly recognizing pathogen-derived signals and the cells indirectly receiving the information.

If you know a strong candidate for this position, please encourage the person to apply for the job by (1) go to <https://humanresources.umn.edu/jobs>, (2) click "External Faculty and Staff Applicants, and (3) search for Job ID# 322994.

Thank you very much for your help,

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