Transporter localization in *Phytophthora infestans*

Robert Jimenez[1], Robert Judelson[2]
[1]Berkeley City College, Berkeley, CA, 94704; [2]University of California, Riverside, CA, 92521

Phytophthora infestans was the pathogen responsible for the Irish potato famine in 1845 (late blight disease), and still causes hundreds of thousands of dollars of crop losses per year. Like some fungi, *Phytophthora* spp. make a structure called haustoria. In fungi, these structures are used to take up nutrients from their host using transmembrane transporters. While this function has never been proven in oomycetes, we hypothesize that *P. infestans* also targets transmembrane transporters to its haustoria to obtain amino acids from the host. Our main interest is in two specific amino acid transporter genes that are up-regulated highly at the early stages of infection. To study the localization of these transporters, we will generate transformants using plasmids that expression fusions of the transporters with the fluorescent tag, tdTomato. After constructing the plasmids, we will transform *P. infestans* zoospores using electroporation. The resulting transformants will then be examined by confocal microscopy to see where the transporters are localized during infection. By studying the localization of these transporters, we will gain new knowledge on *P. infestans* haustoria and their role in nutrient uptake. This could also lead to new methods for controlling disease.