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Mutualistic microbial associates of *Nicotiana attenuata*

An endogenous clock allows plants to anticipate daily changes in abiotic stimuli, such as light and temperature, however, it is unknown whether the clock also allows plants to regulate interactions with microbial community, particularly pathogen community. Therefore, my current focus is to characterize the influence of circadian clock-related genes on *N. attenuata*'s microbial community structure and resistance against its native pathogens, using transgenic *N. attenuata* lines produced by irRNAi. Each line is silenced in one of different genes which are predicted to be related to several diurnal rhythmic traits of *N. attenuata* in nature.

Publications

Santhanam R, Oh Y, Kumar R, Weinhold A, Luu VT, Groten K, Baldwin IT (2017) Specificity of root microbiomes in native-grown *Nicotiana attenuata* and plant responses to UVB increase *Deinococcus* colonization. *Mol Ecol* , [Details](#) [PubMed](#)

Luu VT, Schuck S, Kim SG, Weinhold A, Baldwin IT (2015) Jasmonic acid signalling mediates

resistance of the wild tobacco *Nicotiana attenuata* to its native *Fusarium*, but not *Alternaria*, fungal pathogens. *Plant Cell Environ* 38(3), 572-584. [Details PubMed](#)

Santhanam R, Luu VT, Weinhold A, Goldberg J, Oh Y, Baldwin IT (2015) Native root-associated bacteria rescue a plant from a sudden-wilt disease that emerged during continuous cropping. *Proc Natl Acad Sci U S A* 112(36), E5013-E5020. [Details PubMed](#)

Schuck S, Weinhold A, Luu VT, Baldwin IT (2014) Isolating fungal pathogens from a dynamic disease outbreak in a native plant population to establish plant-pathogen bioassays for the ecological model plant *Nicotiana attenuata*. *PLoS One* 9(7), e102915. [Details PubMed](#)

Supervisor

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Start of PhD

October 1, 2012

Doctoral Disputation

July 20, 2017