



Personal information:

Name : **Li Wan** Current employer : **Shanghai Institute of Plant Physiology and Ecology**

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Research experiences :

2020/04-	Shanghai Institute of Plant Physiology and Ecology	Principal investigator
2015/03-2020/01	University of North Carolina at Chapel Hill	Postdoc (plant pathology)
2010/08-2014/11	University of Queensland	PhD (biochemistry)

Representative publications:

(* Equal contribution; # Corresponding author)

Wan L*, Essuman K*, Anderson RG, Sasaki Y, Monteiro F, Chung EH, Nishimura EO, Antonio AD, Milbrandt J#, Dangl JL#, Nishimura MT#. (2019). TIR Domains of Plant Immune Receptors are NAD⁺ Cleaving Enzymes that Promote Cell Death. **Science** 365: 799–803.

Wan L*#, Koeck M*, Williams SJ, Ashton AR, Lawrence GJ, Sakakibara H, Kojima M, Böttcher C, Ericsson DJ, Hardham AR, Jones DA, Ellis JG, Kobe B#, Dodds PN#. (2019). "Structural and functional insights into the modulation of the activity of a flax cytokinin oxidase by flax rust effector AvrL567-A." **Molecular Plant Pathology** 20(2): 211-222.

Williams SJ*#, Sohn, KH*#, **Wan L***, Bernoux M*, Sarris PF, Segonzac C, Ve T, Ma Y, Saucet SB, Ericsson DJ, Casey LW, Lonhienne T, Winzor DJ, Zhang X, Coerd A, Parker JE, Dodds PN, Kobe B#, Jones JD#. (2014). Structural basis for assembly and function of a heterodimeric plant immune receptor. **Science** 344, 299-303

El Kasmi F*, Chung EH*, Anderson RG, Li J, **Wan L**, Eitas TK, Gao Z#, Dangl JL#. (2017). Signaling from the plasma-membrane localized plant immune receptor RPM1 requires self-association of the full-length protein. **PNAS** 114(35): E7385-E7394.

Washington EJ, Mukhtar MS, Finkel OM, **Wan L**, Banfield MJ, Kieber JJ, Dangl JL#. (2016). *Pseudomonas syringae* type III effector HopAF1 suppresses plant immunity by targeting methionine recycling to block ethylene induction. **PNAS** 113(25): E3577-3586.

Current research interests:

Plants have evolved both cell surface and intracellular immune receptors to detect pathogen molecules and activate defense mechanisms. Plant intracellular immune receptors known as nucleotide-binding leucine-rich repeat (NLR) proteins recognize effectors secreted by pathogens into plant cells and initiate effector-triggered immunity (ETI). ETI involves strong defense gene induction and localized cell death at the site of infection to restrict pathogen spread. ETI confers effective but highly specific, not broad-spectrum resistance against pathogens. In nature, microbes can only successfully infect a small fraction of plant species, while remain non-pathogenic to most plant species. The broad-spectrum resistance plants confer against their non-host pathogens is termed Non-Host Resistance (NHR). The research group will use a combination of tools including plant genetics and molecular biology, and biochemistry and structure biology to investigate the molecular mechanisms of how plant NLRs function and how plant NHR occur.