

## Ph.D. Student Position in Molecular Plant-Pathogen Interactions

University of South Carolina, Columbia, SC, USA

A Ph.D. student position is available in the group of Dr. Zhengqing Fu at the University of South Carolina, Columbia. Previous work identified the first mono-ADP-ribosyltransferase called HopU1 in plants or plant pathogens (Fu et al., 2007 Nature 447: 284). HopU1, as a type III effector from the plant bacterial pathogen *Pseudomonas syringae*, targets RNA-binding proteins to suppress plant defense. It was reported that NPR3 and NPR4 function as the salicylic acid receptors in plants (Fu et al., 2012 Nature 486: 228). In a set of projects, we investigate how plant pathogens cause diseases. Recently, we discovered that salicylic acid promotes the interaction between NPR1 and the *P. syringae* type III effector AvrPtoB. AvrPtoB mediates the degradation of NPR1 via the 26S proteasome dependent on its E3 ligase activity to subvert plant immunity (Chen et al., 2017 Cell Host & Microbe 22:777-788). In addition, our projects uncovered important signaling pathways in salicylic acid-mediated plant defense (Chang et al., 2019. Molecular Plant 12:678-688; Chen et al., 2021. Science Advances 7: eabl7173; Qi et al., 2021. Molecular Plant 14:1-16).

The research projects focus on two topics: how we can increase our understanding of salicylic acid signaling during plant defense against pathogen infection and how plant pathogens modify salicylic acid pathway to cause diseases. We are seeking to recruit a creative and motivated person to fill this position. The incumbent is expected to develop innovative approaches to address fundamental questions in salicylic acid signaling and/or molecular plant-pathogen interactions. We are part of an interactive plant group of internationally recognized faculty. Columbia is located in the Midlands of South Carolina only two to three hours away from the Appalachian Mountains and the beautiful Atlantic coast line.

### Qualifications:

We are looking for a highly motivated and creative individual with strong background in molecular biology and proficiency in spoken and written English to fill this position.

### How to apply:

Please apply for graduate admission to the Department of Biological Sciences from the University of South Carolina graduate school website at <http://www.gradschool.sc.edu/prospective/apply.asp?page=apply>. The deadline is Dec. 1st, 2022. Inquiry letter should be sent to Dr. Zhenqing Fu at [zfu@mailbox.sc.edu](mailto:zfu@mailbox.sc.edu).