

Xiaobo Zheng

Professor

Department of Plant Pathology, Nanjing Agricultural University

E-mail: xbzhen@njau.edu.cn



Research Area

1. Oomycete and fungal biology, taxonomy, and genetics
2. Epidemic and control of oomycete and fungal disease
3. Invasive biology

Research experience

1994/01 Professor, Nanjing Agricultural University, China

1992/07—1993/05 Postdoc in Plant Pathology, University of Hawaii, USA

Awards

1. National Excellent Scientific and Technological Workers
2. Chief scientist of the National Basic Research Program (973) of China
3. Supervisor of the National One-hundred Excellent Doctoral Dissertations winner

Selected Publications (since 2013)

1. Xu M, FengH, Wang SC, Ma JX, Ye WW, **Zheng XB***: Detection of *Fusarium* spp. causing wheat scab in the middle area of Jiangsu using LAMP assays. *Journal of Triticeae Crops* 2018, In Press.
2. Xu M, FengH, Ye WW, Wang SC, **Zheng XB***: Rapid diagnosis of potato dry rot caused by *Fusarium asiaticum* using a loop-mediated isothermal amplification assay. *Acta Phytopathologica Sinica*, 2018. 48:1.
3. Huang J, Gu LF, Zhang Y, Yan TX, Kong GH, Kong L, Guo BD, Qiu M, Wang Y, Jing MF, Xing WM, Ye WW, Wu Z, Zhang ZG, **Zheng XB**, Gijzen M, Wang YC, Dong SM*: An oomycete plant pathogen reprograms host pre-mRNA splicing to subvert immunity. *Nature Communications* 2017, 8(1):2051.
4. Zeng DD, Ye WW, Xu M, Lu CC, Tian Q, **Zheng XB***: Rapid Diagnosis of soya bean root rot caused by *Fusarium culmorum* using a loop-mediated isothermal amplification assay. *Journal of Phytopathology* 2017, 165:249-256.
5. Wang SS, Ye WW, Tian Q, Dong SM, **Zheng XB***: Rapid detection of *Colletotrichum gloeosporioides* using a loop-mediated isothermal amplification assay. *Australasian Plant Pathology* 2017, 46:493-498.
6. Yuan YT, Ye WW, Ceng DD, Wang XI, Wang YC, **Zheng XB***: Detection of soybean seed-borne pathogens in Northeast China using loop-mediated isothermal amplification assays. *Soybean Science*, 2017, 36:592-598.
7. Xu M, Ye WW, ZengDD, Wang YC, **Zheng XB***: Rapid diagnosis of wheat head blight caused by *Fusarium asiaticum* using a loop-mediated isothermal amplification assay. *Australasian Plant Pathology*, 2017, 4:261-266.
8. Tian Q, Lu CC, Wang SS, Xiong Q, Zhang HF, Wang YC, **Zheng XB***: Rapid diagnosis of soybean anthracnose caused by *Colletotrichum truncatum* using a loop-mediated isothermal amplification (LAMP) assay. *European Journal of Plant Pathology* 2017, 148:785-793.
9. Zhang HJ, Teng WJ, Liang JG, Liu XY, Zhang HF, Zhang ZG, **Zheng XB***: MADS1, a novel MADS-box protein, is involved in the response of *Nicotiana benthamiana* to bacterial harpin(Xoo). *Journal of experimental botany* 2016, 67:131-141.
10. Qin T, Zhang HF, Zeng DD, Yao Y, Ren LL, Wang YC, **Zheng XB***: Rapid detection of *Verticillium dahliae* using a loop-mediated isothermal amplification assay. *Acta Phytopathologica Sinica* 2016, 46:721-729.
11. Zeng DD, Zhang HF, Tian Q, Xu M, Wang YC and **Zheng XB***: Detection of soybean seed-borne pathogens in

Huang-Huai area using Lamp assays. *Journal of Nanjing Agricultural University*, 2016, 39:947-953.

12. Zhang HF, **Zheng XB**, Zhang ZG*: The *Magnaporthe grisea* species complex and plant pathogenesis. *Molecular Plant Pathology* 2016, 17:796-804.
13. Zhang HF, Li B, Fang Q, Li Y, **Zheng XB**, Zhang ZG*: SNARE protein FgVam7 controls growth, asexual and sexual development, and plant infection in *Fusarium graminearum*. *Molecular Plant Pathology* 2016, 17:108-119.
14. Yin ZY, Tang W, Wang JZ, Liu XY, Yang LN, Gao CY, Zhang JL, Zhang HF, **Zheng XB**, Wang P, et al.: Phosphodiesterase MoPdeH targets MoMck1 of the conserved mitogen-activated protein (MAP) kinase signalling pathway to regulate cell wall integrity in rice blast fungus *Magnaporthe oryzae*. *Molecular Plant Pathology* 2016, 17:654-668.
15. Ye WW, Wang Y, Shen DY, Li DL, Pu THZ, Jiang ZD, Zhang ZG, **Zheng XB**, Tyler BM, Wang YC*: Sequencing of the litchi downy blight pathogen reveals it is a *Phytophthora* species with downy mildew-like characteristics. *Molecular Plant-Microbe Interactions* 2016, 29:573-583.
16. Qi Z, Liu M, Dong Y, Zhu Q, Li L, Li B, Yang J, Li Y, Ru Y, Zhang H, **Zheng X**, Wang P, Zhang Z*: The syntaxin protein (MoSyn8) mediates intracellular trafficking to regulate conidiogenesis and pathogenicity of rice blast fungus. *New Phytologist* 2016, 209:1655-1667.
17. Qi ZQ, Liu MX, Dong YH, Yang J, Zhang HF, **Zheng XB**, Zhang ZG*: Orotate phosphoribosyl transferase MoPyr5 is involved in uridine 5'-phosphate synthesis and pathogenesis of *Magnaporthe oryzae*. *Applied Microbiology and Biotechnology* 2016, 100:3655-3666.
18. Liu XY, Qian B, Gao CY, Huang SH, Cai YC, Zhang HF, **Zheng XB**, Wang P, Zhang ZG*: The putative protein phosphatase MoYvh1 functions upstream of MoPdeH to regulate the development and pathogenicity in *Magnaporthe oryzae*. *Molecular Plant-Microbe Interactions* 2016, 29:496-507.
19. Li MY, Liu XY, Liu ZX, Sun Y, Liu MX, Wang XL, Zhang HF, **Zheng XB**, Zhang ZG: Glycoside hydrolase MoGls2 controls asexual/sexual development, cell wall integrity and infectious growth in the rice blast fungus. *PLoS One* 2016, 11.
20. Dong YH, Li Y, Qi ZQ, **Zheng XB**, Zhang ZG: Genome plasticity in filamentous plant pathogens contributes to the emergence of novel effectors and their cellular processes in the host. *Current Genetics* 2016, 62:47-51.
21. Yang XY, Ding F, Zhang L, Sheng YT, **Zheng XB**, Wang YC*: The importin alpha subunit PsIMP1A1 mediates the oxidative stress response and is required for the pathogenicity of *Phytophthora sojae*. *Fungal Genetics and Biology* 2015, 82:108-115.
22. Tang W, Ru YY, Hong L, Zhu Q, Zuo RF, Guo XX, Wang JZ, Zhang HF, **Zheng XB**, Wang P, et al.: System-wide characterization of bZIP transcription factor proteins involved in infection-related morphogenesis of *Magnaporthe oryzae*. *Environmental microbiology* 2015, 17:1377-1396.
23. Ma ZC, Song TQ, Zhu L, Ye WW, Wang Y, Shao YY, Dong SM, Zhang ZG, Dou DL, **Zheng XB**, et al.: A *Phytophthora sojae* glycoside hydrolase 12 protein is a major virulence factor during soybean infection and is recognized as a PAMP. *Plant Cell* 2015, 27:2057-2072.
24. Lu CC, Song B, Zhang HF, Wang YC, **Zheng XB***: Rapid diagnosis of soybean seedling blight caused by *Rhizoctonia solani* and soybean charcoal rot caused by *Macrophomina phaseolina* Using LAMP Assays. *Phytopathology* 2015, 105:1612-1617.
25. Dai TT, Zhang HF, Wang YC, **Zheng XB***: Development of a loop-M-mediated isothermal amplification assay to detect *Fusarium oxysporum*. *Journal of Phytopathology* 2015, 163:63-66.
26. Liang J, Meng F, Sun S, Wu CX, Wu HY, Zhang MR, Zhang HF, **Zheng XB**, Song XY, Zhang ZG*: Community structure of arbuscular mycorrhizal fungi in rhizospheric soil of a transgenic high-methionine soybean and a near isogenic variety. *PLoS One* 2015, 10.
27. Li Y, Li B, Liu LP, Chen HG, Zhang HF*, **Zheng XB**, Zhang ZG: FgMon1, a guanine nucleotide exchange factor of

FgRab7, is important for vacuole fusion, autophagy and plant infection in *Fusarium graminearum*. **Scientific Reports** 2015, 5.

28. Gao J, Cao MN, Ye WW, Li HY, Kong L, **Zheng XB**, Wang YC*: PsMPK7, a stress-associated mitogen-activated protein kinase (MAPK) in *Phytophthora sojae*, is required for stress tolerance, reactive oxygenated species detoxification, cyst germination, sexual reproduction and infection of soybean. **Molecular Plant Pathology** 2015, 16:61-70.
29. Dong YH, Zhao Q, Liu XY, Zhang XF, Qi ZQ, Zhang HF*, **Zheng XB**, Zhang ZG: MoMyb1 is required for asexual development and tissue-specific infection in the rice blast fungus *Magnaporthe oryzae*. **BMC Microbiology** 2015, 15.
30. Dong Y, Li Y, Zhao M, Jing M, Liu X, Liu M, Guo X, Zhang X, Chen Y, Liu Y, Liu Y, Ye W, Zhang H, Wang Y, **Zheng X**, Wang P, Zhang Z*: Global genome and transcriptome analyses of *Magnaporthe oryzae* epidemic isolate 98-06 uncover novel effectors and pathogenicity-related genes, revealing gene gain and lose dynamics in genome evolution. **PLoS Pathogens** 2015, 11.
31. Chen Y, Zhai S, Sun Y, Li MY, Dong YH, Wang XL, Zhang HF, **Zheng XB**, Wang P, Zhang ZG*: MoTup1 is required for growth, conidiogenesis and pathogenicity of *Magnaporthe oryzae*. **Molecular Plant Pathology** 2015, 16:799-810.
32. Zhang HF, Zhao Q, Guo XX, Guo M, Qi ZQ, Tang W, Dong YH, Ye WW, **Zheng XB**, Wang P, Zhang ZG*: Pleiotropic Function of the Putative Zinc-Finger Protein MoMsn2 in *Magnaporthe oryzae*. **Molecular Plant-Microbe Interactions** 2014, 27:446-460.
33. Zhang HF, Ma HY, Xie X, Ji J, Dong YH, Du Y, Tang W, **Zheng XB**, Wang P, Zhang ZG*: Comparative proteomic analyses reveal that the regulators of G-protein signaling proteins regulate amino acid metabolism of the rice blast fungus *Magnaporthe oryzae*. **Proteomics** 2014, 14:2508-2522.
34. Teng WJ, Zhang HJ, Wang W, Li DQ, Wang MF, Liu JW, Zhang HF, **Zheng XB**, Zhang ZG*: ALY proteins participate in multifaceted Nep1(Mo)-triggered responses in *Nicotiana benthamiana* and *Arabidopsis thaliana*. **Journal of experimental botany** 2014, 65:2483-2494.
35. Liang JG, Sun S, Ji J, Wu HY, Meng F, Zhang MR, **Zheng XB**, Wu CX, Zhang ZG*: Comparison of the rhizosphere bacterial communities of Zigongdongdou soybean and a high-methionine transgenic line of this cultivar. **PLoS One** 2014, 9.
36. Du Y, Hong L, Tang W, Li LW, Wang XL, Ma HY, Wang ZY, Zhang HF, **Zheng XB**, Zhang ZG*: Threonine deaminase Mollv1 is important for conidiogenesis and pathogenesis in the rice blast fungus *Magnaporthe oryzae*. **Fungal Genetics and Biology** 2014, 73:53-60.
37. Chen Y, Zuo RF, Zhu Q, Sun Y, Li MY, Dong YH, Ru YY, Zhang HF, **Zheng XB**, Zhang ZG*: MoLys2 is necessary for growth, conidiogenesis, lysine biosynthesis, and pathogenicity in *Magnaporthe oryzae*. **Fungal Genetics and Biology** 2014, 67:51-57.
38. Chen Y, Zhai S, Zhang HF, Zuo RF, Wang JM, Guo M, **Zheng XB**, Wang P, Zhang ZG*: Shared and distinct functions of two Gti1/Pac2 family proteins in growth, morphogenesis and pathogenicity of *Magnaporthe oryzae*. **Environmental microbiology** 2014, 16:788-801.
39. Yin WX, Dong SM, Zhai LC, Lin YC, **Zheng XB**, Wang YC*: The *Phytophthora sojae* Avr1d Gene Encodes an RxLR-dEER Effector with Presence and Absence Polymorphisms Among Pathogen Strains. **Molecular Plant-Microbe Interactions** 2013, 26:958-968.
40. Wang JM, Du Y, Zhang HF, Zhou C, Qi ZQ, **Zheng XB**, Wang P, Zhang ZG*: The actin-regulating kinase homologue MoArk1 plays a pleiotropic function in *Magnaporthe oryzae*. **Molecular Plant Pathology** 2013, 14:470-482.
41. Du Y, Zhang HF, Hong L, Wang JM, **Zheng XB**, Zhang ZG*: Acetolactate synthases Mollv2 and Mollv6 are required for infection-related morphogenesis in *Magnaporthe oryzae*. **Molecular Plant Pathology** 2013, 14:870-884.