

# CURRICULUM VITAE

Personal Information			
Name	Caixia Lan	Gender	Female
Position Title	Full professor		
Working Department	College of Plant Science & Technology		
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Address	Huazhong Agricultural University, No. 1 Shizishan street, Hongshan district, Wuhan, Hubei, China 430070		
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Research Interest			
Identification and mapping adult plant resistance genes/loci to wheat disease; Wheat molecular breeding			
Professional Memberships			
None			
Other Roles			
None			
Education & Working Experience			
<b>Education Experience</b>			
Sep. 2007—June 2010: PhD student in Crop Genetics and Breeding, Institute of Crop Science, Chinese Academy of Agricultural Sciences/CIMMYT China Office. The title of dissertation for PhD was ‘QTL mapping for adult-plant resistance to stripe rust and powdery mildew in common wheat’			



**Sep. 2004—June 2007:** MS student in Crop Genetics and Breeding, College of Agronomy, Shenyang Agricultural University. Subject of thesis was ‘The research on lodging-resistance properties in japonica hybrid’

**Sep. 2000—June 2004,** BS in Agronomy, Inner Mongolia University for the Nationalities

### **Working Experience**

**May. 2018 so far:** I am a full professor in College of Plant Science & Technology of Huazhong Agricultural University and lead rusts research and wheat molecular breeding group

**Feb. 2011 to May. 2018:** I was a scientist in Wheat Breeding Group in Global Wheat Program in CIMMY and led rusts research group to control wheat rusts through complex resistance.

**July 2010 — Feb. 2011,** I was a lecturer at Huazhong Agricultural University in Wuhan, China and focused on teaching & wheat molecular breeding.

### **Publications**

#### **Published articles (# means equally contribution, \* means corresponding author)**

1. Ponce-Molina LJ, Huerta-Espino J, Singh RP, Basnet BR, Lagudah E, Aguilar-Rincón VH, Alvarado G, Lobato-Ortiz R, García-Zavala J, Lan CX\* (2018) Characterization of adult plant resistance to leaf rust and stripe rust in Indian wheat cultivar New Pusa 876. *Crop Science*, 58(2): 630-638
2. Lan CX, Hale IL, Herrera-Foessel SA, Basnet BR, Randhawa MS, Huerta-Espino J, Dubcovsky J, Singh RP\* (2017) Characterization and mapping of leaf rust and stripe rust resistance loci in hexaploid wheat lines UC1110 and PI610750 under Mexican Environments. *Frontiers in Plant Science*, doi:10.3389/fpls.2017.01450
3. Juliana P, Singh RP, Singh KP, Crossa J, Huerta-Espino J, Lan CX, Bhavani S, Rutkoski JE, Poland JA, Bergstrom GC, Sorrells ME\* (2017) Genomic and pedigree based prediction for leaf, stem and stripe rust resistance in wheat. *Theoretical and Applied Genetics*, 130: 1415-1430.
4. Ponce-Molina LJ, Huerta-Espino J, Singh RP, Basnet BR, Aguilar-Rincón VH, Alvarado G, Lobato-Ortiz R, García-Zavala JJ, Randhawa MS, Lan CX\* (2017) Characterization of leaf rust and stripe rust resistance in spring wheat ‘Chilero’. *Plant Disease*, 102(2): 421-427

5. Ren Y, Singh RP, Basnet BR, Huerta-Espino J, Lagudah ES, Ponce-Molina LJ, Lan CX\* (2017) Identification and mapping of adult plant resistance loci to leaf rust and stripe rust in common wheat Kundan. *Plant Disease*, 101: 456-463
6. Lan CX, Basnet BR, Herrera-Foessel SA, Huerta-Espino J, Ren Y, Calvo-Salazar V, Singh RP\* (2017) Genetic analysis and mapping of adult plant resistance loci to leaf rust in durum wheat cultivar Bairds. *Theoretical and Applied Genetics*, 130: 609-619
7. Ren Y, Hou WX, Lan CX, Basnet BR, Singh RP, Zhu W, Cheng XY, Cui DQ, Chen F\* (2017) QTL analysis and nested association mapping for adult plant resistance to powdery mildew in two bread wheat populations. *Frontiers in Plant Science*, 8: 1212. doi:10.3389/fpls.2017.01212
8. Pretorius ZA\*, Lan CX, Prins R, Knight V, McLaren NW, Singh RP, Bender CM, Kloppers FJ (2017) Application of remote sensing to identify adult plant resistance loci to stripe rust in two bread wheat mapping population. *Precision Agriculture*, 18: 411-428
9. Manickavelu A\*, Joukhadar R, Jigly A, Lan CX, Huerta-Espino J, Stanikzai AS, Kilian A, Singh RP, Ban T (2016) Genome wide association mapping of stripe rust resistance in Afghan wheat landraces. *Plant Science*, 252: 222-229
10. Mondal S\*, Rutkoski JE, Velu G, Singh PK, Crespo-herrera LA, Guzman CG, Bhavani S, Lan CX, He XY and Singh RP (2016) Harnessing diversity in wheat to enhance grain yield, climate resilience, disease and insect pest resistance and nutrition through conventional and modern breeding approaches. *Frontiers in Plant Science*, 7:991. doi:10.3389/fpls.2016.00991
11. Zhang RQ\*, Sun BX, Chen J, Cao AZ, Xing LP, Feng YG, Lan CX, Chen PD (2016) *Pm55*, a developmental-stage and tissue-specific powdery mildew resistance gene introgressed from *Dasypyrum villosum* into common wheat. *Theoretical and Applied Genetics*, 129: 1975-1984
12. Moore JW, Herrera-Foessel S, Lan CX, Schnippenkoetter W, Ayliffe M, Huerta-Espino J, Lillemo M, Viccars L, Milne R, Periyannan S, Kong XY, Spielmeier W, Talbot M, Bariana H, Patrick JW, Dodds P, Singh R, Lagudah E\* (2015) A recently evolved hexose transporter variant confers resistance to multiple pathogens in wheat. *Nature Genetics*, 47: 1494-1498
13. Lan CX, Zhang YL, Herrera-Foessel SA, Basnet BR, Huerta-Espino J, Lagudah ES, Singh RP\* (2015) Identification and characterization of pleiotropic and co-located resistance loci to leaf rust and stripe rust in bread wheat cultivar Sujata. *Theoretical and Applied Genetics*,

128:549-561

14. Calvo-Salazar V, Singh RP, Huerta-Espino J, Cruz-Izquierdo S, Lobato-Ortiz R, Sandoval-Islas S, Vargas-Hernández M, German S, Silva P, Basnet BR, Lan CX\*, Herrera-Foessel SA\* (2015) Genetic analysis of resistance to leaf rust and yellow rust in spring wheat cultivar Kenya Kongoni. *Plant Disease*, 99:1153-1160
15. Herrera-Foessel SA\*, Singh RP, Lan CX, Huerta-Espino J, Calvo-Salazar V, Bansal U, Bariana H, Lagudah ES (2015) *Yr60*, a gene conferring moderate resistance to stripe rust in wheat. *Plant Disease*, 99:508-511
16. Singh RP\*, Hodson DP, Jin Y, Lagudah ES, Ayliffe MA, Bhavani S, Rouse MN, Pretorius ZA, Szabo LJ, Huerta-Espino J, Basnet BR, Lan CX, Hovmoller MS (2015) Emergence and spread of new races of wheat stem rust fungus: Continued threat to food security and prospects of genetic control. *Phytopathology*, 105(7):872-884
17. Zhang PP, Zhou HX, Lan CX, Li ZF\*, Liu DQ\* (2015) An AFLP marker linked to the leaf rust resistance gene *LrBi16* and test of allelism with *Lr14a* on chromosome arm 7BL. *The Crop Journal*. 3: 152-256
18. Lan CX\*, Singh RP, Huerta-Espino J, Calvo-Salazar V, Herrera-Foessel SA (2014) Genetic analysis of resistance to leaf rust and stripe rust in wheat cultivar Francolin#1. *Plant Disease*, 98:1227-1234
19. Lan CX\*, Rosewarne GM, Singh RP, Herrera-Foessel SA, Huerta-Espino J, Basnet BR, Zhang YL, Yang EN (2014) QTL characterization of resistance to leaf rust and stripe rust in the spring wheat line Francolin#1. *Molecular Breeding*, 34:789-803
20. Li ZF#, Lan CX#, He ZH, Singh RP, Rosewarne G, Chen XM, Xia XC (2014) Overview and application of QTL for adult plant resistance to leaf rust and powdery mildew in wheat. 2014. *Crop Science*, 54:1907-1925
21. Basnet BR\*, Singh RP, Ibrahim AMH, Herrera-Foessel SA, Huerta-Espino J, Lan CX, Rudd JC (2014) Characterization of *Yr54* and other genes associated with adult plant resistance to yellow rust and leaf rust in common wheat Quaiu 3. *Molecular Breeding*, 33(2):385-399
22. Herrera-Foessel SA\*, Singh RP, Lillemo M, Huerta-Espino J, Bhavani S, Singh S, Lan CX, Calvo-Salazar V, Lagudah ES (2014) *Lr67/Yr46* confers adult plant resistance to stem rust and powdery mildew in wheat. *Theoretical and Applied Genetics*, 127(4):781-789

23. Herrera-Foessel SA\*, Huerta-Espino J, Calvo-Salazar V, Lan CX, Singh RP (2014) *Lr72* confers resistance to leaf rust in durum wheat cultivar Atil C2000. *Plant Disease*, 98(5):631-635
24. Singh RP\*, Herrera-Foessel SA, Huerta-Espino J, Singh S, Bhavani S, Lan CX, Basnet BR (2014) Progress towards genetics and breeding for minor genes based resistance to Ug99 and other rusts in CIMMYT high yielding spring wheat. *Journal of Integrative Agriculture*, 13(2):255-261
25. Muhammad AA, Bai B, Lan CX, Yan J, Xia XC, Zhang Y, He ZH\* (2014) Identification of QTL for adult-plant resistance to powdery mildew in Chinese wheat landrace Pingyuan 50. *The Crop Journal*, 2:308-314
26. Rosewarne GM\*, Herrera-Foessel SA, Singh RP, Huerta-Espino J, Lan CX, He ZH (2013) Quantitative trait loci of stripe rust resistance in wheat. *Theoretical and Applied Genetics*, 126(10):2427-2449
27. Herrera-Foessel SA\*, Singh RP, Huerta-Espino J, Rosewarne GM, Periyannan SK, Viccars L, Calvo-Salazar V, Lan CX, Lagudah ES (2012) *Lr68*: a new gene conferring slow rusting resistance to leaf rust in wheat. *Theoretical and Applied Genetics*, 124(8):1475-1486
28. Yan R, Li ZF, He ZH, Wu L, Bai B, Lan CX, Wang CF, Zhou G, Zhu HZ, Xia XC\* (2012) QTL mapping of adult-plant resistances to stripe rust and leaf rust in Chinese wheat cultivar Bainong 64. *Theoretical and Applied Genetics*, 125 (6):1253-1262
29. Muhammad AA, Bai B, Lan CX, Yan J, Xia XC, Zhang Y, He ZH\* (2012) Molecular mapping of quantitative trait loci for adult-plant resistance to powdery mildew in Italian wheat cultivar Libellula. *Crop & Pasture Science*, 63:539-546
30. Bai B, He ZH\*, Muhammad AA, Lan CX, Zhang Y, Xia XC, Yan J, Chen XM\*, Wang DS (2012) Pyramiding adult-plant powdery mildew resistance QTLs in bread wheat. *Crop & Pasture Science*, 63: 609-611
31. Lan CX, Liang SS, Zhou XC, Zhou G, Lu QL, Xia XC\*, He ZH\* (2010) Identification of genomic regions controlling adult-plant stripe rust resistance in Chinese Landrace Pingyuan 50 through bulked segregant analysis. *Phytopathology*, 100(4):313-318
32. Lan CX, Ni XW, Yan J, Zhang Y, Xia XC, Chen XM\*, He ZH\* (2010) Quantitative trait loci mapping of adult-plant resistance to powdery mildew in Chinese wheat cultivar Lumai 21.

*Molecular Breeding*, 25(4):615-622

33. Lu YM#, Lan CX#, Liang SS, Zhou XC, Liu D, Zhou G, Lu QL, Jing JX, Wang MN, Xia XC\*, He ZH\* (2009) QTL mapping for adult-plant resistance to stripe rust in Italian common wheat cultivars Libellula and Strampelli. *Theoretical and Applied Genetics*, 119(8):1349-1359
34. Lan CX, Liang SS, Wang ZL, Yan JB, Zhang Y, Xia XC\*, He ZH\* (2009) Quantitative trait loci mapping for adult-plant resistance to powdery mildew in Chinese wheat cultivar Bainong 64. *Phytopathology*, 99 (10):1121-1126