**CURRICULUM VITAE**

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| **Research Interest** | | | | | |
| Roles of plant hormone during abiotic stress response  Adaptation of ornamental plants to environmental conditions  Abiotic stress response of turfgrass | | | | | |
| **Professional Memberships** | | | | | |
| Academic Editor of Journal of Pineal Research (2016.3-)  Academic Editor of PLOS ONE (2014.4- )  Guest Associated Editor of Frontiers in Plant Science (2014.10- )  Academic Editor of Plant Science Journal (2015.1- ) | | | | | |
| **Other Roles** | | | | | |
| 2011 “One-hundred-Talent Program” of Chinese Academy of Sciences;  2006 Excellent Graduate Student of Institute of Botany, the Chinese Academy of Sciences;  2005 Di’ao Scholarship awarded by Chinese Academy of Sciences; | | | | | |
| **Education & Working Experience** | | | | | |
| 2016.12--------present Professor, Huazhong Agricultural University.  2011.12--------2016.11 Professor, “100-talent Program” and PhD advisor at Wuhan Botanic Garden, Chinese Academy of Sciences.  2011.1--------2011.12 Postdoctoral Research Associate at Purdue University, West Lafayette, IN, USA.  2009.7--------2010.12 Postdoctoral Research Associate at University of California, Riverside, CA, USA.  2006.7--------2009.6 Postdoctoral Research Associate at Michigan State University, East Lansing, MI, USA.  2003.9--------2006.7 Ph. D student. Institute of Botany, the Chinese Academy of Sciences Beijing, China. | | | | | |
| **Publications** | | | | | |
| 1. Yin M, Wang Y, Zhang L, Li J, Quan W, Yang Li, Wang Q\*, **Chan Z\*.** The Arabidopsis Cys2/His2 zinc-finger transcription factor *ZAT18* is a positive regulator of plant tolerance to drought stress. ***Journal of Experimental Botany***, 2017, in press. 2. **Chan Z\***, Yokawa K, Kim W-Y and Song C-P**\***. ROS regulation during plant abiotic stress responses. *Frontiers in Plant Science*, 2016, 7: 1536. 3. Ye T, Shi H, Wang Y, Yang F, **Chan Z\***. Contrasting proteomic and metabolomic responses of bermudagrass to drought and salt stresses. *Frontiers in Plant Science*, 2016, 7:1674. 4. Wang Y, Yang L, Chen X, Ye T, Liu R, Wu Y, **Chan Z\***. MLP-like protein 43 (*MLP43*) functions as a positive regulator during ABA responses and confers drought tolerance in *Arabidopsis thaliana*. ***Journal of Experimental Botany***, 2016, 67: 421-434. 5. **Chan Z\***, Wang Y, Cao M, Gong Y, Mu Z, Wang H, Hu Y, Deng X, He X-J, Zhu JK\*. *RDM4* modulates cold stress resistance in Arabidopsis partially through the *CBF*-mediated pathway. ***New Phytologist***, 2016, 209: 1527-1539. 6. Zhao Y§, **Chan Z**§, Gao J, Xing L, Cao M, Yu C, Hu Y, You J, Shi H, Zhu Y, Gong Y, Mu Z, Wang H, Deng X, Wang P, Bressan RA, Zhu JK\*. The ABA receptor *PYL9* promotes drought resistance and leaf senescence. ***Proceedings of the National Academy of Sciences of the United States of America***, 2016, 113: 1949-1954. (**equal contribution**) 7. Quan W, Liu X, Wang H**\***, **Chan Z\***. Physiological and transcriptional responses of contrasting alfalfa (*Medicago sativa* L.) varieties to salt stress. *Plant Cell Tissue and Organ Culture*, 2016, 126: 105-115. 8. Cheng Z, Jin R, Cao M, Liu X, **Chan Z\***. Exogenous application of ABA mimic 1 (AM1) improves cold stress tolerance in bermudagrass (*Cynodon dactylon*). *Plant Cell Tissue and Organ Culture*, 2016, 125: 231-240. 9. Quan W, Liu X, Wang H, **Chan Z\***. Comparative physiological and transcriptional analyses of two contrasting drought tolerant alfalfa varieties. *Frontiers in Plant Science*, 2016, 6: 1256. 10. Jin R, Wang Y, Liu R, Gou J, **Chan Z\***. Physiological and metabolic changes of purslane (*Portulaca oleracea* L.) in response to drought, heat and combined stresses. *Frontiers in Plant Science*, 2016, 6, 1123. 11. Liu X, **Chan Z\***. Application of potassium polyacrylate increases soil water status and improves growth of bermudagrass (*Cynodon dactylon*) under drought stress condition. *Scientia Horticulturae*, 2015, 197: 705-711. 12. You J, **Chan Z\***. ROS regulation during abiotic stress responses in crop plants. *Frontiers in Plant Science*, 2015, 6: 1092. 13. Ye T, Shi H, Wang Y, **Chan Z\***. Contrasting changes caused by drought and submergence stresses in bermudagrass (*Cynodon dactylon*). *Frontiers in Plant Science*, 2015, 6: 951. 14. Zhang L, You J, **Chan Z\***. Identification and characterization of *TIFY* family genes in *Brachypodium distachyon*. *Journal of Plant Research*, 2015, 128, 6: 995-1005. 15. Fan J, Hu Z, Xie Y, **Chan Z**, Chen K, Amombo E, Chen L\*, Fu J. Alleviation of cold damage to photosystem II and metabolisms by melatonin in Bermudagrass. *Frontiers in Plant Science*, 2015, 6: 925. 16. Wang Y, Shen W, **Chan Z**, Wu Y\*. Endogenous cytokinin overproduction modulates ROS homeostasis and decreases salt stress resistance in *Arabidopsis thaliana*. *Frontiers in Plant Science*, 2015, 6: 1004. 17. Shi H\*, Chen Y, Qian Y, **Chan Z\***. Low Temperature-Induced 30 (*LTI30*) positively regulates drought stress resistance in Arabidopsis: effect on abscisic acid sensitivity and hydrogen peroxide accumulation. *Frontiers in Plant Science*, 2015, 6: 893. 18. Jin R, Shi H, Han C, Zhong B, Wang Q, **Chan Z\***. Physiological changes of purslane (*Portulaca oleracea* L.) after progressive drought stress and rehydration. *Scientia Horticulturae*, 2015, 194: 215-221. 19. Shi H, Ye T, Song B, Qi X, **Chan Z\***. Comparative physiological and metabolomic responses of four *Brachypodium distachyon* varieties contrasting in drought stress resistance. *Acta Physiologiae Plantarum*, 2015, 37:122. 20. Shi H, Wang X, Tan DX, Reiter RJ, **Chan Z\***. Comparative physiological and proteomic analyses reveal the actions of melatonin in the reduction of oxidative stress in bermudagrass (*Cynodon dactylon* (L). Pers.). **Journal of Pineal Research**, 2015, 59: 120-131. 21. Shi H, Chen Y, Tan DX, Reiter RJ, **Chan Z\***, He C\*. Melatonin induces nitric oxide and the potential mechanisms relate to innate immunity against bacterial pathogen infection in Arabidopsis. **Journal of Pineal Research**, 2015, 59: 102-108. 22. Yang F\*, Wang Y, **Chan Z**. Review of environmental conditions in the water level fluctuation zone Perspectives on riparian vegetation engineering in the Three Gorges Reservoir. Aquatic Ecosystem Health and Management, 2015, 18: 240-249. 23. You J, Zhang L, Song B, Qi X, **Chan Z\***. Systematic analysis and identification of stress-responsive genes of the *NAC* gene family in *Brachypodium distachyon*. *PLoS ONE*, 2015, 10: e0122027. 24. Shi H, Tan DX, Reiter RJ, Ye T, Yang F, **Chan Z\***. Melatonin induces class A1 heat shock factors (*HSFA1*s) and their possible involvement of thermotolerance in Arabidopsis. **Journal of Pineal Research**, 2015, 58: 335-342. 25. Shi H, Ye T, Yang F\*, **Chan Z\***. Arabidopsis *PED2* positively modulates plant drought stress resistance. Journal of Integrative Plant Biology, 2015, 57: 796-806. 26. **Chan Z\***, Shi H. Improved abiotic stress tolerance of bermudagrass by exogenous small molecules. *Plant Signaling & Behavior*, 2015, 10: e991577. 27. Shi H, Ye T, Han N, Bian H, Liu X, **Chan Z\***. Hydrogen sulfide regulates abiotic stress tolerance and biotic stress resistance in Arabidopsis. Journal of Integrative Plant Biology, 2015, 57: 628-640. 28. Shi H, Reiter RJ, Tan DX, **Chan Z\***. *INDOLE-3-ACETIC ACID INDUCIBLE 17* positively modulates natural leaf senescence through melatonin-mediated pathway in Arabidopsis. **Journal of Pineal Research**, 2015, 58: 26-33. 29. Shi H, Jiang C, Ye T, Tan D, Reiter RJ, Zhang H**\***, Liu R**\***, **Chan Z\***. Comparative physiological, metabolic and transcriptomic analyses reveal mechanisms of improved abiotic stress resistance in bermudagrass (*Cynodon dactylon* (L). Pers.) by exogenous melatonin. ***Journal of Experimental Botany***, 2015, 66: 681-694. 30. Han C, **Chan Z**\*, Yang F\*. Comparative analyses of universal extraction buffers for assay of stress related biochemical and physiological parameters. Preparative Biochemistry & Biotechnology, 2015, 45: 684-695. 31. Yang F, Han C, Li Z, Guo Y, **Chan Z\***. Dissecting tissue- and species-specific responses of two *Plantago* species to waterlogging stress at physiological level. Environmental and Experimental Botany, 2015, 109: 177-185. 32. Yang F\*, Wang Y, **Chan Z**. Perspectives on screening winter-flood-tolerant woody species in the riparian protection forests of the three gorges reservoir. PLoS ONE, 2014, 9: e108725. 33. Shi H, **Chan Z\***.The Cysteine2/Histidine2-type transcription factor *ZINC FINGER OF ARABIDOPSIS THALIANA 6*-activated *C-REPEAT-BINDING FACTOR* pathway is essential for melatonin-mediated freezing stress resistance in Arabidopsis. **Journal of Pineal Research**, 2014, 57: 185-191. 34. Shi H§, Ye T§, **Chan Z\***. Comparative proteomic responses of two bermudagrass (*Cynodon dactylon* (L). Pers.)varietiescontrasting in drought stress resistance. Plant Physiology and Biochemistry, 2014, 82: 218-228. 35. Shi H, Chen L, Ye T, Liu X, Ding K, **Chan Z\***. Modulation of auxin content in Arabidopsis confers improved drought stress resistance. Plant Physiology and Biochemistry, 2014, 82: 209-217. 36. Shi H, Ye T, Zhu J-K**\***, **Chan Z\***. Constitutive production of nitric oxide leads to enhanced drought stress resistance and extensive transcriptional reprogramming in Arabidopsis. ***Journal of Experimental Botany***, 2014, 65: 4119-4131. 37. 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Shi H, Ye T, Zhong B, Liu X, **Chan Z\***. Comparative proteomic and metabolomic analyses reveal mechanisms of improved cold stress tolerance in bermudagrass (*Cynodon dactylon* (L). Pers.) by exogenous calcium. *Journal of Integrative Plant Biology*, 2014, 56:1064-1079. 42. Shi H, Ye T, **Chan Z\***.Nitric oxide-activatedhydrogen sulfide is essential for cadmium stress response in bermudagrass (*Cynodon dactylon* (L). Pers.). Plant Physiology and Biochemistry, 2014, 74: 99-107. 43. Shi H, **Chan Z\***. Improvement of plant abiotic stress tolerance through modulation of the polyamine pathway. *Journal of Integrative Plant Biology*, 2014, 56: 114-121. 44. Zhao Y§, **Chan Z**§, Xing L, Liu X, Hou Y-J, Chinnusamy V, Wang P, Duan C and Zhu J-K**\***. The unique mode of action of a divergent member of the ABA-receptor protein family in ABA signaling. ***Cell Research***, 2013, 23: 1380-1395 (**equal contribution**). 45. **Chan Z**, Loescher W, Grumet R**\***. Transcriptional variation in response to salt stress in commonly used *Arabidopsis thaliana* accessions. Plant Physiology and Biochemistry, 2013, 73: 189-201. 46. Shi H, Ye T, **Chan Z\***. Comparative proteomic and physiological analyses reveal the protective effect of exogenous polyamines in the bermudagrass (*Cynodon dactylon*) response to salt and drought stresses. ***Journal of Proteome Research***, 2013, 12:4951-4964. 47. Shi H, Ye T, **Chan Z\***. Exogenous application of hydrogen sulfide donor sodium hydrosulfide enhanced multiple abiotic stress tolerance in bermudagrass (*Cynodon dactylon* (L). Pers.). Plant Physiology and Biochemistry, 2013, 71: 226-234. 48. Wang Y, Yang L, Zheng Z, Grumet, R, Loescher W, Zhu J-K, Yang P, Hu Y**\***, **Chan Z\***. Transcriptomic and physiological adaptations of Arabidopsis ecotype Shahdara to salt stress. *PLOS ONE*, 2013, 8(7): e69036. 49. Shi H, Ye T, Wang Y, **Chan Z\***. Arabidopsis *ALTERED MERISTEM PROGRAM 1* negatively modulates plant responses to abscisic acid and dehydration stress. Plant Physiology and Biochemistry, 2013, 67: 209-216. 50. Shi H, **Chan Z\***. *In vivo* role of Arabidopsis arginase in arginine metabolism and abiotic stress response. Plant Signaling & Behavior, 2013, 8: e24138. 51. Shi H, Ye T, Chen F, Cheng Z, Wang Y, Yang P, Zhang Y, **Chan Z\***. Manipulation of arginase expression modulates abiotic stress tolerance in Arabidopsis: effect on arginine metabolism and ROS accumulation. **Journal of Experimental Botany**, 2013, 64: 1367-1379. 52. **Chan Z\***. Proteomic responses of fruits to environmental stresses. Frontiers in Plant Science, 2013, 3: 311. 53. Shi H§, Wang Y§, Cheng Z, Ye T, **Chan Z\***. Analysis of natural variation in bermudagrass (*Cynodon dactylon*) reveals physiological responses underlying drought tolerance. *PLOS ONE*, 2012, 7: e53422. 54. **Chan Z\*.** Expression profiling of ABA pathway transcripts indicates crosstalk between abiotic and biotic stress responses in Arabidopsis. Genomics, 2012, 100: 110-115. 55. **Chan Z**, Bigelow PJ, Loescher L, Grumet R\*. Comparison of salt stress resistance genes in transgenic *Arabidopsis thaliana* indicates that extent of transcriptomic change may not predict secondary phenotypic or fitness effects. **Plant Biotechnology Journal**, 2012, 10: 284-300. 56. **Chan Z**, Grumet R, Loescher W\*. Global gene expression analysis of transgenic, mannitol-producing and salt tolerant *Arabidopsis thaliana* indicates widespread changes in expression of abiotic- and biotic-stress related genes.**Journal of Experimental Botany**, 2011, 62(14):4787-4803. 57. Loescher W\*, **Chan Z**, Grumet R. Options for Developing Salt Tolerant Crops. Hortscience, 2011, 46: 1085-1092. 58. **Chan Z§**,Wang Q§, Xu X§, Meng X, Xu Y, Qin G, Li B, Tian S\*. Functions of defense-related proteins and dehydrogenases in resistance response induced by salicylic acid in sweet cherry fruits at different maturity stages. Proteomics, 2008, 8:4791-4807. (Cover image) 59. Xu X, **Chan Z**, Xu Y, and Tian S\*. Effect of *Pichia membranaefaciens* combined with salicylic acid on controlling brown rot in peach fruit and the mechanisms involved. *Journal of the Science of Food and Agriculture*, 2008, 88: 1786-1793. 60. **Chan Z**, Tian S\*, Qin G, Xu X. Proteome approach to characterize proteins induced by antagonist yeast and salicylic acid in peach fruit.***Journal of Proteome Research***, 2007, 6: 1677-1688. (Highlighted article) 61. Qin G, Tian S\*, **Chan Z**, Li B. Crucial role of antioxidant proteins and hydrolytic enzymes in pathogenicity of Penicillium expansum: analysis based on proteomic approach. **Molecular & Cellular Proteomics**, 2007, 6: 425-438. 62. Tian S\*, Yao H, Deng X, Xu X, Qin G, **Chan Z**, Xu Y. Characterization and expression of *β*-1, 3-glucanase genes in jujube fruit induced by the biocontrol microbial agent *Cryptococcus laurentii*. *Phytopathology*, 2007, 97:260-268. 63. **Chan Z**, Tian S\*. Induction of H2O2-metabolizing enzymes and total protein synthesis in sweet cherry fruit by salicylic acid and antagonistic *Pichia membranefaciens*. *Postharvest Biology and Technology*, 2006, 39: 314-320. 64. Huang M\*, Chen T, **Chan Z**. An evaluation for cross-species proteomics research by publicly available expressed sequence tag database search using tandem mass spectral data. *Rapid Communications in Mass Spectrometry*, 2006, 20: 2635-2640. 65. Ding Z, Tian S\*, Wang Y, Li B, **Chan Z**, Han J, Xu Y. 2006. Physiological response of loquat fruit to different storage conditions and its storability. *Postharvest Biology and Technology*, 2006, 41: 143-150. 66. Qin G, Tian S\*, Xu Y, **Chan Z**, Boqiang Li. Combination of antagonistic yeasts with two food additives for control of brown rot caused by *Monilinia fructicola* on sweet cherry fruit. *Journal of Applied Microbiology*, 2006, 100: 508-515. 67. **Chan Z**, Tian S\*. Interaction of antagonistic yeasts against postharvest pathogens in apple fruit and possible mode of action. *Postharvest Biology and Technology*, 2005, 36: 215-223.   ***Articles in Chinese with English abstract***   1. Quan W, **Chan Z**\*. Research progress on drought resistance of alfalfa. *Biotechnology Bulletin*, 2016, 32: 34-41. 2. **Chan Z**\*, Shi H, Wang Y. Response of bermudagrass to abiotic stress. *Pratacultural Science*, 2013, 30: 1182-1187. 3. Li M, Tan G\*, Li Y, Ding K, **Chan Z**, Cheng H. Analysis of the relationships between different kiwifruit cultivars and their resistance to *Pseudomonas syringae* pv.*actinidiae* by RAPD. *Plant Protection*, 2009, 3: 41-46. 4. Wang Q, **Chan Z**,Qin G, Tian S\*. Comparison of 2-DE techniques for improved proteomic analysis of fruit tissues. *Chinese Bulletin of Botany*, 2009, 44: 107-116. 5. Li M, **Chan Z**, Tan G\*, Ding K, Gao Z, Cheng H. Research progress and prospect on *Trichoderma* spp.control fungal plant disease. *Letters in Biotechnology,* 2009, 20: 286-290. 6. Li M, Tan G\*, Li Y, Ding K, **Chan Z**, Ling Y. Relationships between the contents of phenolics,soluble proteins in plants of kiwifruit cultivars and their resistance to kiwifruit bacterial canker by *Pseudomonas syringae* pv. *Actinidiae*. *Plant Protection*, 2009, 1: 37-41. 7. Zhao S, **Chan Z**, Ding K\*. The resistant inheritance of *Fusarium monilifore* to prochloraz and cabendazim. *Journal of Anhui Agricultural University*, 2008, 35: 46-48. 8. Tian S\***,** **Chan Z**. Potential of induced resistance in postharvest diseases control of fruits and vegetables. *Acta Phytopathologica Sinica*, 2004, 34: 385-394. 9. **Chan Z**, Ding K\*, Tan G. Epidemic Regularity of Rice Bakanae Disease. *Journal of Anhui Agricultural University*, 2004, 31: 139-142. 10. **Chan Z**, Ding K\*, Tan G, Chen Q, Zhu S, Su X. Effect of *Fusarium moniliforme* on three enzymes activities and isoenzyme patterns in different rice varieties. *Journal of Anhui Agricultural Sciences*, 2003, 31: 29-30. 11. **Chan Z**, Ding K\*, Tan G. Antagonism of *Trichoderma harzianum* against *Fusarium moniliforme* in rice. *Plant Protection*, 2003, 29: 35-39. 12. **Chan Z**, Ding K\*, Tan G. Research progress of rice Banakae disease. *Journal of Anhui Agricultural Sciences*, 2002, 30: 880-883. | | | | | |
| **Additional Information** | | | | | |
| ***Conferences***   1. **Chan Z, Shi H. 2015. Application of small molecules improved plant abiotic stress resistance.** Oral presentation in **Plant Abiotic Stress Tolerance III in Vieana, Austria on June 29-July 1, 2015.** 2. **Chan Z, Shi H, Wang Y**.2014. **Identification and functional characterization of ABA receptor interacting proteins in Arabidopsis**. Oral presentation in the 6th International Symposium on Frontiers in Agricultural Proteome Research, the 1st AOAPO conference & the 5th Plant Proteomics Conference in China in Harbin, Helongjiang Province, China on June 23-27, 2014. 3. **Chan Z**. 2012. **Transcriptional regulation of Arabidopsis in response to salt stress**. Oral presentation in the 4th  International Symposium on Frontiers in Agriculture Proteome Research (FAPR) & 4th Plant Proteomics Symposium in China in Wuhan, Hubei Province, China on November 8-11, 2012. 4. **Chan Z**, Grumet R, Loescher W. 2009. **Growth response and global gene expression analysis of transgenic mannitol-producing and salt tolerant *Arabidopsis thaliana***. Poster presented in Plant and Animal Genome Conference held in San Diego, CA, USA on January 10-14, 2008. 5. **Chan Z**, Grumet R, Loescher W. 2008. **Transcriptomic analysis of transgenic mannitol-producing and salt tolerant *Arabidopsis thaliana***. Poster presented in Gordon Research Conference on “Salt and water stress” held in Big Sky Resort, MT, USA on September 7-12, 2008. 6. Tian S, **Chan Z**, Qin G, Wang Q, Xu X and Meng X. 2008. **Functions of defense-related proteins and dehydrogenases in resistance response induced by salicylic acid in sweet cherry fruit at different maturity stages**. Poster presented in International Symposium on “Frontier in Plant Proteome Research” held in Tsukuba, P, 16.Japan on March 10-11, 2008. 7. Tian S, Qin G, **Chan Z**, Boqiang Li. 2007. **Crucial role of antioxidant proteins and hydrolytic enzymes in pathogenicity of Penicillium expansum: analysis based on proteomic approach**. Proceedings of the 2nd National Workshop on Plant Proteomics of China. Presented on the 2nd National Workshop on Plant Proteomics of China in Beijing on October 23-24, 2007. 8. **Chan Z**, Tian S. 2006. **Mechanisms of induced resistance of harvested fruit: based on proteomic analysis**. Oral presentation on the 3rd Plant Molecular Biology Forum of Chinese Youth in Beijing on July 7-8, 2006.   **Patents**   1. ZL201310094573.0: An effective approach to increase stress resistance of bermudagrass, Medicago and rice through application of short time drought pretreatment. 2. ZL201310096011.X: An effective approach to increase stress resistance of bermudagrass, Medicago and rice through application of low concentration of NaCl treatment. 3. ZL201310095350.6: An effective approach to increase salt and drought stress resistance of bermudagrass through exogenous application of polyamine. | | | | | |