

Curriculum vitae of Jianqiang Wu

CONTACT INFORMATION

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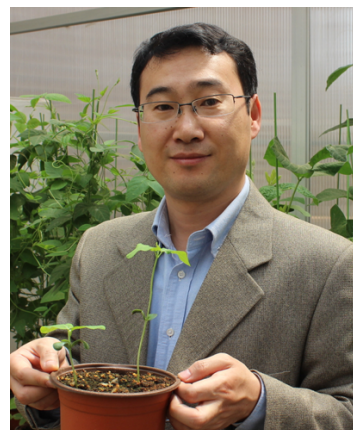
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RESEARCH INTEREST

Defense mechanisms of maize against insects

Plant-parasitic plant interactions

EDUCATION

09.2001- 11.2007	Ph.D. Plant Molecular Biology and Genetics Thesis: molecular study of the trypsin proteinase inhibitor defense mechanism and early herbivory-induced signaling in <i>Nicotiana</i> Awarded the Otto Hahn Medal for excellent Ph.D. work in the Max Planck Society, 2008	Department of Molecular Ecology, Max Planck Institute for Chemical Ecology, Jena, Germany; Supervisor: Prof. Ian T. Baldwin
09.1995 - 07.1998	M.S. Analytical Chemistry (Chromatography and Mass Spectrometry) Thesis: application of cyclodextrin-derivative stationary phases in separation of aromatic positional isomers in gas chromatography	Department of Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China; Supervisor: Prof. Daoqian Zhu
09.1991- 07.1995	B.S. Chemical Engineering	Department of Chemical Engineering, Dalian University of Technology, Dalian, China

ACADEMIC APPOINTMENTS

- 04.2012 – present: **Full Professor**, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, China
- 01.2007 – 04.2012: **Group Leader**, Department of Molecular Ecology, Max Planck Institute for Chemical Ecology, Jena, Germany
- 10.1998 – 08.2001: **Research Associate**, Modern Analysis Center, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China

ADMINISTRATIVE APPOINTMENTS

1. 2021.07-present, Deputy Director, Kunming Institute of Botany, Chinese Academy of Sciences
2. 2020.06-2023.11: Department Chair, Department of Economic Plants and Biotechnology, Kunming Institute of Botany, Chinese Academy of Sciences
3. 2014.01-2020.05: Deputy Department Chair, Department of Economic Plants and Biotechnology, Kunming Institute of Botany, Chinese Academy of Sciences

EDITORIAL SERVICES

- Co-editor of Journal of Integrative Plant Biology (2010-2025)
- Editor of Plant Diversity (2015-2020)
- Editor-in-Chief of Plant Diversity (2021-2025)
- Editor of Journal of Ecology and Environment (2023-2026)
- Editor of Journal of Systematics and Evolution (2024-2028)

AWARDS RECEIVED

Jun. 2008, Otto Hahn medal, Max Planck Society.

GRANTS

1. 2024.01-2027.12, National Science Foundation of China (U23A20199).
2. 2024.01-2026.12 Yunnan Revitalization Talent Support Program “Yunling Scholar” Project of Yunnan Province.
3. Jan. 2021-Dec. 2023, Yunnan Innovation Team Project, Yunnan Provincial Science and Technology Department.
4. June 2020, General and Key Project of Applied Basic Research Program of Yunnan (2020-2022)
5. Jan. 2020, National Science Foundation of China (2020-2023)
6. Aug. 2017, Key International Collaborative Program, Chinese Academy of Sciences (2018-2020)
7. Jan. 2016, National Science Foundation of China-Yunnan Joint Grant (2016-2019)
8. Jan. 2015, National Science Foundation of China (2015-2018)
9. May 2014, the Strategic Priority Research Program of the Chinese Academy of Sciences (2014-2019)
10. Oct. 2013, “Max Planck Partner Group” grant, from the Max Planck Society (2013-2018).
11. Oct. 2012, “Top talents program of Yunnan Province” (No. 2012HA016), from Yunnan Global Talents Affairs Leading Group (2012-2015)

12. Jan. 2012, awarded the “Thousand Young Talent Program” from China (2012-2015)
13. Startup grant from the Kunming Institute of Botany, Chinese Academy of Sciences (2012-2015)
14. Dec. 2011, awarded Marie Curie International Outgoing Fellowship (scored 96.1/100) from the European Union (hosts: Prof. Detlef Weigel, Max Planck Institute for Developmental Biology, and Prof. Lynne E. Maquat, University of Rochester)

PUBLICATIONS (*corresponding authors; # co-first authors)

2025

1. Zhang, J., Shen, G., Cui, S., Wang., W., **Wu, J.*** (2025) Interplant signal transduction between dodder (*Cuscuta*) and their hosts. **Plant & Cell Physiology** (in press).
2. Zhan, C., Xue, N., Su, Z., Zheng, T., **Wu, J.*** (2025) RBOHD, GLR3.3, and GLR3.6 cooperatively control wounding hypocotyl-induced systemic Ca^{2+} signals, jasmonic acid, and glucosinolates in *Arabidopsis* leaves. **Plant Diversity** 47:690-701.
<https://pubmed.ncbi.nlm.nih.gov/40734840/>
3. Yang, J.#, Shen, G.#, **Wu, J.*** (2025) Jasmonic acid and salicylic acid transcriptionally regulate *CuRe1* in cultivated tomato to activate resistance to parasitization by dodder *Cuscuta australis*. **Plant Diversity** 47:511-521.
<https://pubmed.ncbi.nlm.nih.gov/40497005/>
4. Zheng, X., Zhang, J., Zhao, M., Su, Z., Li, H., **Wu, J.*** (2025) Strigolactones, ROS, and ABA regulate systemic salt-tolerance priming signals between dodder-connected tobacco plants. **Plant Cell & Environment** 48:4370-4384.
<https://pubmed.ncbi.nlm.nih.gov/39980353/>
5. Su, Z., Li, H., Xu, Y., Zhang, C., **Wu, J.***, Yun, L.* (2025) Agrobacterium tumefaciens-mediated transformation system for an *Armillaria* species, a host of the fully mycoheterotrophic plant *Gastrodia elata*. **Folia Microbiologica** (In press).
<https://pubmed.ncbi.nlm.nih.gov/39644422/>
6. Zhao, M., Zheng, X., Su, Z., Shen, G., Xu, Y., Feng, Z., Li, W., Zhang, S., Cao, G., Zhang, J.#, **Wu, J.*** (2025) MicroRNA399s and strigolactones mediate systemic phosphate signaling between dodder-connected host plants and control the association of host plants with rhizosphere microbes. **New Phytologist** 245:1263-1276.
<https://pubmed.ncbi.nlm.nih.gov/39555671/>

2024

7. Li, S., Ma, C., Li, S., Zhang, M., Zhang, C., Qi, J., Wang, L., Wu, X., Li, J.#, **Wu, J.*** MPK4 phosphorylates MYC2 transcription factors to regulate jasmonic acid signaling and herbivory responses in maize. **Plant Physiology** 197:kie575.
<https://pubmed.ncbi.nlm.nih.gov/39471326/>
8. Setotaw, Y.B.#, Li, J.#, Qi, J., Ma, C., Zhang, M., Huang C., Wang, L., **Wu, J.*** (2024) Salicylic acid positively regulates maize defenses against lepidopteran insects. **Plant Diversity** 46:519-529
<https://pubmed.ncbi.nlm.nih.gov/39280976/>
9. Wang, L., Ma, C., Wang, S., Yang F., Sun, Y., Tang, J., Luo, J., **Wu, J.*** (2024) Ethylene and jasmonate signaling converge on gibberellin catabolism during thigmomorphogenesis in *Arabidopsis*. **Plant Physiology** 194:758-773.
<https://pubmed.ncbi.nlm.nih.gov/37847103/>

Commented by Plant Physiol. (News and Views)

<https://academic.oup.com/plphys/advance-article/doi/10.1093/plphys/kiad588/7334396>

10. Zhang, J. #, Li, S. #, Li, W. #, Feng, Z., Zhang, S., Zheng, X., Xu, Y., Shen, G., Zhao, M., Cao, G., Wu, X. *, **Wu, J. *** (2023) Large-scale interplant exchange of macromolecules between soybean and dodder under nutrient stresses. **Plant Diversity** 46:116-125.

<https://pubmed.ncbi.nlm.nih.gov/38343599/>

2023

11. **Wu, J. *** (2023) Plant biology: Young maize leaves 'smell' a volatile danger signal. **Current Biology** 33: R914-R916.

<https://pubmed.ncbi.nlm.nih.gov/37699351/>

12. Shen, G. #, Zhang, J. #, Lei, Y., Xu, Y., **Wu, J. *** (2023) Between-Plant Signaling. **Annual Review of Plant Biology** 74:367-386.

<https://www.ncbi.nlm.nih.gov/pubmed/36626804>

13. Ma, C., Li, R., Sun, Y., Zhang, M., Li, S., Xu, Y., Song, J., Li, J., Qi, J., Wang, L. *, **Wu, J. *** (2022) ZmMYC2s play important roles in maize responses to simulated herbivory and jasmonate. **Journal of Integrative Plant Biology** 65:1041-1058.

<https://www.ncbi.nlm.nih.gov/pubmed/36349965>

2022

14. Xue, N., Zhan, C., Song, J., Li, Y., Zhang J., Qi, J., **Wu, J. *** (2022) The glutamate receptor-like 3.3 and 3.6 mediate systemic resistance to insect herbivores in Arabidopsis. **Journal of Experimental Botany** 73:7611-7627.

<https://www.ncbi.nlm.nih.gov/pubmed/36214841>

15. Xu, Y., Zhang, J., Ma, C., Lei, Y., Shen, G., Jin, J. J., Eaton, D. A., **Wu, J. *** (2022) Comparative genomics of orobanchaceous species with different parasitic lifestyles reveals the origin and stepwise evolution of plant parasitism. **Molecular Plant** 15:1384-1399.

<https://www.ncbi.nlm.nih.gov/pubmed/35854658>

16. Song, J. #, Bian, J. #, Xue, N., Yu, X., **Wu, J. *** (2022) Inter-species mRNA transfer among green peach aphids, dodder parasites, and cucumber host plants. **Plant Diversity** 44:1-10.

<https://pubmed.ncbi.nlm.nih.gov/35281124>

2021

17. Xu, Y. #, Lei, Y. #, Su, Z., Zhao, M., Zhang, J., Shen, G., Wang, L., Li, J., Qi, J., **Wu, J. *** (2021) A chromosome-scale *Gastrodia elata* genome and large-scale comparative genomic analysis indicate convergent evolution by gene loss in mycoheterotrophic and parasitic plants. **Plant Journal** 108:1609-1623.

<https://pubmed.ncbi.nlm.nih.gov/34647389/>

18. Lei, Y., Xu, Y., Zhang, J., Song, J., **Wu, J. *** (2021) Herbivory-induced systemic signals are likely evolutionarily conserved in euphyllophytes. **Journal of Experimental Botany** 72: 7274-7284.

<https://www.ncbi.nlm.nih.gov/pubmed/34293107>

19. Malook, S.U., Xu, Y., Qi, J., Li, J., Wang, L., **Wu, J. *** (2021) *Mythimna separata* herbivory primes maize resistance in systemic leaves. **Journal of Experimental Botany** 72:3792-3805.

<https://pubmed.ncbi.nlm.nih.gov/33647931/>

20. Zhang, J., Xu, Y., Xie, J., Zhuang, H., Liu, H., Shen, G., **Wu, J.*** (2021) The parasite *Cuscuta campestris* enables transfer of bidirectional systemic nitrogen signals between host plants. **Plant Physiology** 185:1395–1410.

<https://pubmed.ncbi.nlm.nih.gov/33793912/>

21. Zhang, C., Li, J., Li, S., Ma, C., Liu, H., Wang, L., Qi, J., **Wu, J.*** (2021) ZmMPK6 and ethylene signaling negatively regulate the accumulation of anti-insect metabolites DIMBOA and DIMBOA-Glc in maize inbred line A188. **New Phytologist** 229:2273-2287.

<https://pubmed.ncbi.nlm.nih.gov/32996127>

2020

22. Shen, G.[#], Liu, N.[#], Zhang, J., Xu, Y., Baldwin, I.T., **Wu, J.*** (2020) *Cuscuta australis* (dodder) parasite eavesdrops on the host plants' FT signals to flower. **Proceedings of National Academy of Sciences of the USA** 117: 23125-23130

<https://www.ncbi.nlm.nih.gov/pubmed/32868415>

23. Li, S., Zhang, J., Liu, H., Liu, N., Shen, G., Zhuang, H., **Wu, J.*** (2020) Dodder-transmitted mobile signals prime host plants for enhanced salt tolerance. **Journal of Experimental Botany** 71:1171-1184

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J. Exp. Bot. <https://academic.oup.com/jxb/article/71/3/749/5714585>

24. Zhang, C., Lei, Y., Lu, C., Wang, L., **Wu, J.*** (2020) MYC2, MYC3, and MYC4 function additively in wounding-induced jasmonic acid biosynthesis and catabolism. **Journal of Integrative Plant Biology** 62:1159-1175

<https://www.ncbi.nlm.nih.gov/pubmed/31876387>

25. Liu, N., Shen, G., Xu Y., Liu, H., Zhang, J., Li, S., Li, J., Zhang, C., Qi, J., Wang, L., **Wu, J.*** (2020) Extensive inter-plant protein transfer between *Cuscuta* parasites and their host plants. **Molecular Plant** 13:573-585

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1) Molecular Plant

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2) Nature Plants

<https://www.nature.com/articles/s41477-019-0583-9>

2019

26. Qin, Y., Zhang, J., Hettenhausen, C., Liu, H., Li, S., Shen, G., Cao, G., **Wu, J.*** (2019) The host jasmonic acid pathway regulates the transcriptomic changes of dodder and host plant under the scenario of caterpillar feeding on dodder. **BMC Plant Biology** 19:540.

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27. Gao, L., Shen, G., Zhang, L., Qi, J., Zhang, C., Ma, C., Li, J., Wang, L., Malook, S.U., **Wu, J.*** (2019) An efficient system composed of maize protoplast transfection and HPLC-MS for studying the biosynthesis and regulation of maize benzoxazinoids. **Plant Methods** 15:144.

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28. Malook, S.[#], Qi, J.[#], Hettenhausen, C.[#], Xu, Y., Zhang, C., Zhang, J., Lu, C., Li, J., Wang, L., **Wu, J.*** (2019) The oriental armyworm (*Mythimna separata*) feeding induces systemic defense responses within and between maize leaves. **Philosophical Transactions of the Royal Society B** 374: 20180307

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2018

29. **Wu, J.*** (2018) miRNAs as a secret weapon in the battlefield of haustoria, the interface between parasites and host plants. **Molecular Plant** 11, 354–356.
<https://www.ncbi.nlm.nih.gov/pubmed/29462721>
30. Qi, J., Malook, S., Shen, G., Gao, L., Zhang, C., Li, J., Zhang, J., Wang, L., **Wu, J.*** (2018) Current understanding of maize and rice defense against insect herbivores. **Plant Diversity** 40: 189-195.
<https://www.sciencedirect.com/science/article/pii/S2468265918300696>
31. Sun, G. #, Xu, Y. #, Liu, H. #, Sun, T., Zhang, J., Hettenhausen, C., Shen, G., Qi, J., Qin, Y., Li, J., Wang, L., Chang, W., Guo, Z., Baldwin, I.T., **Wu, J.*** (2018) Large-scale gene losses underlie the genome evolution of parasitic plant *Cuscuta australis*. **Nature Communications** 9:2683.
<https://www.ncbi.nlm.nih.gov/pubmed/29992948>

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<https://science.sciencemag.org/content/361/6402/565.5/tab-pdf>

32. Zhuang, H., Li, J., Song, J., Hettenhausen, C., Schuman, M., Sun, G., Zhang, C., Li, J., Song, D., **Wu, J.*** (2018) Aphid (*Myzus persicae*) feeding on the parasitic plant dodder (*Cuscuta australis*) activates defense responses in both the parasite and soybean host. **New Phytologist** 218: 1586-1596.
<https://www.ncbi.nlm.nih.gov/pubmed/29575001>
33. Lei, Y., Xu, Y., Hettenhausen, C., Lu, C., Shen, G., Zhang, C., Li, J., Song, J., Lin, H. #, **Wu, J.*** (2018). Comparative analysis of alfalfa (*Medicago sativa* L.) leaf transcriptomes reveals genotype-specific salt tolerance mechanisms. **BMC Plant Biology** 18:35
<https://www.ncbi.nlm.nih.gov/pubmed/29448940>
34. Lu, C., Qi, J., Hettenhausen, C., Lei, Y., Zhang, J., Zhang, M., Zhang C., Song J., Li, J., Cao, G., Malook, S.U., **Wu, J.*** (2018) Elevated CO₂ differentially affects tobacco and rice defense against lepidopteran larvae via the jasmonic acid signaling pathway. **Journal of Integrative Plant Biology** 60: 412-431
<https://www.ncbi.nlm.nih.gov/pubmed/29319235>
35. Qi, J., Zhang, M., Lu, C., Hettenhausen, C., Tan, Q., Cao, G., Zhu, X., Wu, G., **Wu, J.*** (2018) Ultraviolet-B enhances the resistance of multiple plant species to lepidopteran insect herbivory through the jasmonic acid pathway. **Scientific Reports** 8:277
<https://www.ncbi.nlm.nih.gov/pubmed/29321619>

2017

36. Song, J., Liu, H., Zhuang, H., Zhao, C., Xu, Y., Wu, S., Qi, J., Li, J., Hettenhausen, C. #, **Wu, J.*** (2017) Transcriptomics and alternative splicing analyses reveal large differences between maize lines B73 and Mo17 in response to aphid *Rhopalosiphum padi* Infestation. **Frontiers in Plant Science** 8:1738.
<https://www.ncbi.nlm.nih.gov/pubmed/29067035>
37. Hettenhausen, C. #, Li, J. #, Zhuang, H., Sun, H., Xu, Y., Qi, J., Zhang, J., Lei, Y., Qin, Y., Sun, G., Wang, L., Baldwin, I.T., **Wu, J.*** (2017) The stem parasitic plant *Cuscuta australis* (dodder) transfers herbivory-induced signals among plants. **Proceedings of National Academy of Sciences of the USA** 114: E6703-E6709.
<https://www.ncbi.nlm.nih.gov/pubmed/28739895>

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1) PNAS

<https://www.pnas.org/content/114/32/8433>

2) Science

<https://science.sciencemag.org/content/357/6352/657.5>

3) Nature Plants

<https://www.nature.com/articles/s41477-017-0015-7>

38. Lei, Y., Liu, Q., Hettenhausen, C., Cao, G., Tan, Q., Zhao, W., Lin, H.*, **Wu, J.*** (2017) Salt-tolerant and -sensitive alfalfa (*Medicago sativa*) cultivars have large variations in defense responses to the lepidopteran insect *Spodoptera litura* under normal and salt stress condition. **PLoS One** 12: e0181589.
<https://www.ncbi.nlm.nih.gov/pubmed/28719628>
- 2016**
39. Sun, T., Renner, S., Xu, Y., Qin, Y., **Wu, J.***, Sun, G.* (2016) Two *hAT* transposon genes were transferred from Brassicaceae to broomrapes and are actively expressed in some recipients. **Scientific Reports** 6:30192.
<https://www.ncbi.nlm.nih.gov/pubmed/27452947>
40. Luo, J., Wei, K., Wang, S., Zhao, W., Ma, C., Hettenhausen, C., Wu, J., Cao, G., Sun, G., Baldwin, I. T., **Wu, J.***, Wang, L*. (2016) COI1-regulated hydroxylation of jasmonoyl-L-isoleucine impairs *Nicotiana attenuata*'s resistance to the generalist herbivore *Spodoptera litura*. **Journal of Agricultural and Food Chemistry** 64, 2822-2831
<http://www.ncbi.nlm.nih.gov/pubmed/26985773>
41. Qi, J. #, Sun, G. #, Wang, L. #, Zhao, C. #, Hettenhausen, C., Schuman, M.C., Baldwin, I.T., Li, J., Song, J., Liu, Z., Xu, G., Lu, X., **Wu, J.*** (2016) Oral secretions from *Mythimna separata* insects specifically induce defense responses in maize as revealed by high-dimensional biological data. **Plant Cell & Environment** 39, 1749-1766
<http://www.ncbi.nlm.nih.gov/pubmed/26991784>
42. Hettenhausen, C.#, Sun, G. #, He, Y., Zhuang, H., Sun, T., Qi, J., **Wu, J.*** (2016) Genome-wide identification of calcium-dependent protein kinases in soybean and analyses of their transcriptional responses to insect herbivory and drought stress. **Scientific Reports**, 6: 18973.
<http://www.ncbi.nlm.nih.gov/pubmed/26733237>
- 2015**
43. Hettenhausen, C., Schuman, M.C., **Wu, J.*** (2015) MAPK signaling – a key element in plant defense response to insects. **Insect Science** 22, 157-164.
<http://www.ncbi.nlm.nih.gov/pubmed/24753304>
44. Li, J., Hettenhausen, C., Sun, G., Zhuang, H., Li, J. H.*, **Wu, J.*** (2015) The parasitic plant *Cuscuta australis* is highly insensitive to abscisic acid-induced suppression of hypocotyl elongation and seed germination. **PLoS One**, 10: e0135197.
<http://www.ncbi.nlm.nih.gov/pubmed/26258814>
- 2014**
45. Hettenhausen, C., Heinrich, M., Baldwin, I.T., **Wu, J.*** (2014) Fatty acid-amino acid conjugates are essential for systemic activation of salicylic acid-induced protein kinase and accumulation of jasmonic acid in *Nicotiana attenuata*. **BMC Plant Biology**, 14, 326.
<http://www.ncbi.nlm.nih.gov/pubmed/25430398>
46. Zhang, D., Qi, J., Yue, J., Huang, J., Sun, T., Li, S., Wen, J., Hettenhausen, C., Wu, J., Wang, L., Zhuang, H., **Wu, J.*** and Sun, G.* (2014), Root parasitic plant *Orobanchae aegyptiaca* and shoot parasitic plant *Cuscuta australis* obtained Brassicaceae-specific strictosidine synthase-like genes by horizontal gene transfer. **BMC Plant Biology** 14, 19.
<http://www.ncbi.nlm.nih.gov/pubmed/24411025>
- 2013**
47. Wang, L., **Wu, J.*** (2013) The essential role of jasmonic acid in plant-herbivore interactions - using the wild tobacco *Nicotiana attenuata* as a model. **Journal of Genetics and Genomics** 40, 597-606.
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48. Hettenhausen, C., Baldwin, I.T., **Wu, J.*** (2013) *Nicotiana attenuata* MPK4 suppresses a novel JA signaling-independent defense pathway against the specialist insect *Manduca sexta* but is not required for the resistance to the generalist *Spodoptera littoralis*. **New Phytologist** 199, 787-99.
<http://www.ncbi.nlm.nih.gov/pubmed/23672856>

49. Yang, D.H., Baldwin, I.T., **Wu, J.*** (2013) Silencing brassinosteroid receptor *BRI1* impairs herbivory-elicited accumulation of jasmonic acid-isoleucine and diterpene glycosides, but not jasmonic acid and trypsin proteinase inhibitors in *Nicotiana attenuata*. **Journal of Integrative Plant Biology** **55**, 514-526.
<http://www.ncbi.nlm.nih.gov/pubmed/23347255>
50. Heinrich, M., Hettenhausen, C., Lange, T., Wünsche, H., Fang, J., Baldwin, I.T., **Wu, J.*** (2013) High levels of jasmonic acid antagonize the biosynthesis of gibberellins and inhibit the growth of *Nicotiana attenuata* stems. **Plant Journal** **73**, 591-606.
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51. Hettenhausen, C., Yang, D.H., Baldwin, I.T., **Wu, J.*** (2013) Calcium-dependent protein kinases, CDPK4 and CDPK5, affect early steps of jasmonic acid biosynthesis in *Nicotiana attenuata*. **Plant Signaling & Behavior** **8**, e22784
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2012

52. Yang, D.H., Hettenhausen, C., Baldwin, I.T., **Wu, J.*** (2012) Silencing *Nicotiana attenuata* calcium-dependent protein kinases, CDPK4 and CDPK5, strongly upregulates wound- and herbivory-induced jasmonic acid accumulations. **Plant Physiology** **159**, 1591-607
<http://www.ncbi.nlm.nih.gov/pubmed/22715110>
53. Hettenhausen, C., Baldwin, I.T., **Wu, J.*** (2012) Silencing *MPK4* in *Nicotiana attenuata* enhances photosynthesis and seed production but compromises abscisic acid-induced stomatal closure and guard cell-mediated resistance to *Pseudomonas syringae* pv. *tomato* DC3000. **Plant Physiology** **158**, 759-76
<http://www.ncbi.nlm.nih.gov/pubmed/22147519>
54. Shi, C., Baldwin, I.T., **Wu, J.*** (2012) Arabidopsis nonsense-mediated mRNA decay factors, UPF1, UPF2, and UPF3, are involved in plant development and wounding- and pathogen-induced responses. **Journal of Integrative Plant Biology** **54**, 99-114.
<http://www.ncbi.nlm.nih.gov/pubmed/22353561>
55. Heinrich, M., Baldwin, I.T., **Wu, J.*** (2012) Three MAPK kinases, MEK1, SIPKK and NPK2, are not involved in activation of SIPK after wounding and herbivore feeding but important for accumulation of trypsin proteinase inhibitors. **Plant Molecular Biology Reporter** **30**, 731-40.
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2011

56. Meldau, S., Baldwin, I.T., **Wu, J.*** (2011) For security and stability: SGT1 in plant defense and development. **Plant Signaling & Behavior** **6**, 1479-82.
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57. Yang D.H., Hettenhausen C., Baldwin, I.T., **Wu, J.*** (2011) The multifaceted function of BAK1/SERK3: plant immunity to pathogens and responses to insect herbivores. **Plant Signaling & Behavior** **6**, 1322-4.
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58. Heinrich, M., Baldwin, I.T., **Wu, J.*** (2011) Two mitogen-activated protein kinase kinases, MKK1 and MEK2, are involved in wounding- and specialist lepidopteran herbivore *Manduca sexta*-induced responses in *Nicotiana attenuata*. **Journal of Experimental Botany** **62**, 4355-65.
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59. Wünsche, H., Baldwin, I.T., **Wu, J.*** (2011) S-Nitrosoglutathione reductase (GSNOR) mediates resistance of *Nicotiana attenuata* to the specialist insect herbivore *Manduca sexta*. **Journal of Experimental Botany** **62**, 4605-16.
<http://www.ncbi.nlm.nih.gov/pubmed/21622839>
60. Wünsche, H., Baldwin, I.T., **Wu, J.*** (2011) Silencing *NOA1* elevates herbivory-induced JA accumulation and compromises most of carbon-based defense metabolites in *Nicotiana attenuata*. **Journal of Integrative Plant Biology** **53**, 619-31.
<http://www.ncbi.nlm.nih.gov/pubmed/21457460>

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65. **Wu, J.**, Hettenhausen, C., Schuman, M.C., and Baldwin, I.T.* (2008) A comparison of two *Nicotiana attenuata* accessions reveals large differences in *Manduca sexta*-induced signaling events. **Plant Physiology** **146**, 927-39.
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67. **Wu, J.**, Kang, J.H., Hettenhausen, C., and Baldwin, I.T.* (2007). Nonsense-mediated mRNA decay (NMD) silences the accumulation of aberrant trypsin proteinase inhibitor mRNA in *Nicotiana attenuata*. **Plant Journal** **51**, 693-706.
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- Other papers**
1. Su, Z., Li, H., Xu, Y., Zhang, C., **Wu, J.**, Lei, Y. (2024) Establishment of an efficient *Agrobacterium tumefaciens*-mediated transformation system for an *Armillaria* species, a host of the fully mycoheterotrophic plant *Gastrodia elata*. **Folia Microbiologica**
2. Sun, T., Xu, Y., Zhang, D., Zhuang, H., **Wu, J.**, Sun, G. (2016) An acyltransferase gene that putatively functions in anthocyanin modification was horizontally transferred from Fabaceae into the genus *Cuscuta*. **Plant Diversity** **38**, 149-155.
3. Sun, H., Wang, L., Zhang, B., Ma, J., Hettenhausen, C., Cao, G., Sun, G., **Wu, J.**, Wu, J*. (2014) Scopoletin is a phytoalexin against *Alternaria alternata* in wild tobacco dependent on jasmonate signalling. **Journal of Experimental Botany** **65**, 4305-15.
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4. Zhang, N., Han Z., Sun, G., Hoffman, A., Wilson, I.W., Yang, Y., Gao, Q., **Wu, J.**, Xie, D., Dai, J., Qiu, D. (2014) Molecular cloning and characterization of a cytochrome P450 taxoid 9alpha-hydroxylase in *Ginkgo biloba* cells. **Biochemical and Biophysical Research Communications** **443**, 938-43.
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5. Sun, H., Hu, X., Ma, C., Hettenhausen, C., Wang, L., Sun, G., **Wu, J.**, Wu, J*. (2014) Requirement of ABA signalling-mediated stomatal closure for resistance of wild tobacco to *Alternaria alternate*. **Plant Pathology** **63**, 1070-7.
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6. Sun, G., Yang, Y., Xie, F., Wen, J.F., **Wu J.**, Wilson, I.W., Tang, Q., Liu, H., Qiu, D. (2013) Deep sequencing reveals transcriptome re-programming of *Taxus × media* cells to the elicitation with methyl jasmonate. **PLoS One** **8**, e62865.
<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0062865>
7. Yu, S., Cao, L., Zhou, C.M., Zhang, T.Q., Lian, H., Sun, Y., **Wu, J.**, Wang, G., Wang, J.W., (2013) Sugar is an endogenous cue for juvenile-to-adult phase transition in plants. **eLife** **2**, e00269.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3610343/>
8. Deng, W.W., Zhang, M., **Wu J.**, Li, Y.Y., Wei, C.L.*; Jiang, C.J., Wan, X.C. (2013) Molecular cloning, functional analysis of three *cinnamyl alcohol dehydrogenase* (CAD) genes in the leaves of tea plant, *Camellia sinensis*. **Journal of Plant Physiology** **170**, 272-282
<http://www.ncbi.nlm.nih.gov/pubmed/23228629>
9. Meldau, S., **Wu, J.**, Baldwin, I.T.* (2009) Silencing two herbivory-activated MAP kinases, SIPK and WIPK, does not increase *Nicotiana attenuata*'s susceptibility to herbivores in the glasshouse and in nature. **New Phytologist** **181**, 161-73.
<http://www.ncbi.nlm.nih.gov/pubmed/19076722>
10. Rayapuram, C., **Wu, J.**, Hase, C., and Baldwin, I.T.* (2008) PR-13/Thionin not PR-1 mediates bacterial resistance in *Nicotiana attenuata* in nature and neither influences herbivore resistance. **Molecular Plant-Microbe Interactions** **21**, 988-1000.
<http://www.ncbi.nlm.nih.gov/pubmed/18533839>
11. Horn, M., Patankar, A.G., Zavala, J.A., **Wu, J.**, Doleckova-Maresova, L., Vujtechova, M., Mares, M., Baldwin, I.T.* (2005). Differential elicitation of two processing proteases controls the processing pattern of the trypsin proteinase inhibitor precursor in *Nicotiana attenuata*. **Plant Physiology** **139**, 375-388.
<http://www.ncbi.nlm.nih.gov/pubmed/16113221>

Book Chapters

1. Hettenhausen C, Baldwin, I.T., **Wu J.** (2014) Virus-induced gene silencing in plant MAPK research. **Methods in Molecular Biology – Plant MAP Kinases: Methods and Protocols**. Eds. G. Komis, J. Samaj, Humana Press Inc. 1171:79-89
<http://www.ncbi.nlm.nih.gov/pubmed/24908121>
2. Galis I., Schuman M.C., Gase K., Hettenhausen C., Hartl M., Dinh S.T., **Wu J.**, Bonaventure G., Baldwin I.T. (2013) The use of VIGS technology to study plant-herbivore interactions. **Methods in Molecular Biology - Virus-induced gene silencing: Methods and protocols**. Eds. A. Becker, Humana Press Inc. 975:109-37
<http://www.ncbi.nlm.nih.gov/pubmed/23386299>
3. Tretyakov, A., Mrotzek, G., **Wu, J.**, Baldwin, I.T., Saluz, H.P.* (2006). Rapid heatblock thermocycling of small samples: a path to fast, low-cost plant genotyping. **Floriculture, Ornamental and Plant Biotechnology**. Vol. 4. Global Science Books, Isleworth, 226 - 230.
4. Hettenhausen C, Baldwin, I.T., **Wu J.** (2014) Virus-induced gene silencing in plant MAPK research. **Methods in Molecular Biology – Plant MAP Kinases: Methods and Protocols**. Eds. G. Komis, J. Samaj, Humana Press Inc. 1171:79-89
<http://www.ncbi.nlm.nih.gov/pubmed/24908121>
5. Galis I., Schuman M.C., Gase K., Hettenhausen C., Hartl M., Dinh S.T., **Wu J.**, Bonaventure G., Baldwin I.T. (2013) The use of VIGS technology to study plant-herbivore interactions. **Methods in Molecular Biology - Virus-induced gene silencing: Methods and protocols**. Eds. A. Becker, Humana Press Inc. 975:109-37
<http://www.ncbi.nlm.nih.gov/pubmed/23386299>

TALKS

1. **17th World Congress on Parasitic Plants (WCPP2024) meeting**, Nara, Japan, June 3-7, 2024.
2. **Topic workshop of 43rd annual meeting of the molecular biology society of Japan**, Dec. 2, 2020. Online
3. **The 10th Conference of Asia-Pacific Association of Chemical Ecologist**, Hangzhou, China, October 9-13, 2019
4. **World Congress on Parasitic Plants - WCPP2019**, Amsterdam, the Netherlands, June 30-July 5, 2019
5. **The 5th International Conference on Biotic Plant Interactions**, Aug. 17-21, 2017
6. **17th Plant Genomics Conference in China**, Fuzhou, China, Aug. 19-21, 2016
7. **11th National Congress of Chemical Ecology**, Wuhan, China, July 22-24, 2016
8. **National Congress of Plant Biology**, Changchun, China, Oct. 9-12, 2015
9. **International Symposium on “From Ecosystems to Modern Agriculture”**, Lanzhou, China, June 26–27, 2015
10. **13th Congress on Parasitic Plants**, Kunming, China, 5-10 July 2015
11. **3rd International Conference on Plant Metabolism**, Xiamen, China, July 2-5, 2014
12. **10th Solanaceae Conference (SOL 2013)**, Beijing, China, Oct. 13-17, 2013
13. The important roles of MAPKs in plant defense against herbivores. **Invited talk, Institute of Zoology, Chinese Academy of Sciences**, Beijing, China, Jun 4, 2013
14. Herbivory-induced signaling in plants – MAPKs go ahead. **Invited talk, Institute of Botany, Chinese Academy of Sciences**, Beijing, China, Nov. 12, 2012
15. Herbivory-induced signaling in plants – MAPKs go ahead. **Invited talk, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences**, Beijing, China, Nov. 14, 2012
16. MPK4 in stress signaling. **Invited talk, Huazhong Agricultural University**, Wuhan, China, Jul. 18, 2012
17. Functions of MAPK signaling in plant resistance to herbivores. **Invited lecture, Chinese Academy of Forestry**, Beijing, China, Dec. 27, 2011
18. MPK4 in *Nicotiana attenuata*: a multifaceted MAPK involved in biotic and abiotic resistance. **2nd International Symposium on Integrative Plant Biology, Invited lecture**, Lanzhou, China, Aug. 26-28, 2011
19. Herbivory-Induced Signaling in Plants: Perception and Action. **Invited lecture, Anhui Agricultural University**, Feb 21, 2011
20. When an herbivore takes a bite, does the plant know? **Invited plenary lecture, International Conference on Plant Vascular Biology and Agriculture**, Chongqing, China, June 21-24, 2009
21. NaCDPK1 mediates heat resistance in *Nicotiana attenuata*. **Max Planck Institute for Chemical Ecology**, Jena, Germany, Sept. 25-26, 2008
22. MAP kinases regulate *Nicotiana attenuata*'s defense responses to herbivory. Department of Life Sciences, **Nanjing University**, Nanjing, China, June 6, 2008
23. Genetic modifications of *Nicotiana attenuata* reveal functions of plant secondary metabolites in resistance to herbivory; **Invited plenary lecture, International Conference on Plant Secondary Metabolism**, Kunming, China, June 8-10, 2008

24. MAP kinases regulate defense responses to herbivory in *Nicotiana attenuata*; **Max Planck Institute for Chemical Ecology**, Jena, Germany, Sept. 2007
25. The evolution of proteinase inhibitor defense mechanisms during polyploidy speciation in *Nicotiana* native to North America, **Workshop DFG-SPP 1152 “Evolution of metabolic diversity”**, Halle, Germany, Oct. 2004
26. The evolution of herbivory-specific expression of proteinase inhibitors during polyploidy speciation in *Nicotiana* native to North America; **Botanikertagung 2004/Deutsche Botanische Gesellschaft, Vereinigung für Angewandte Botanik, Braunschweig**, Germany, Sept. 2004

TEACHING

1. “Plant Molecular Biology”, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, June 2013
2. “Transfection of Arabidopsis Protoplasts”, Max Planck International Research School, basic lecture, Max Planck Institute for Chemical Ecology, Jena, Feb. 6-8, 2012
3. “Advanced Molecular Cloning and Application of Arabidopsis Protoplasts”, Max Planck International Research School, basic lecture, Max Planck Institute for Chemical Ecology, Jena, November 7-11, 2011
4. “Application of quantitative real-time PCR in ecological studies”, Ecology Workshop, Friedrich Schiller University, Jena, July 2010
5. “Basic Knowledge of Molecular Cloning”, Max Planck International Research School, basic lecture, Max Planck Institute for Chemical Ecology, Jena, June 2009
6. “Molecular Cloning of PCR Products”, Ecology Workshop, Friedrich Schiller University, Jena, July 2008

SUPERVISION

Postdocs and Visiting Scientists

1. Canrong Ma (Dec. 2022-present), Ph.D. from Kunming Institute of Botany, CAS
2. Mou Zhang (Jan. 2022-present), Ph.D. from Nanjing Agricultural University
3. Jingxiong Zhang (Dec. 2020-Aug. 2025), Ph.D. from Kunming Institute of Botany, CAS
4. Yuxing Xu (Jul. 2019-Jan. 2024), postdoc, Ph.D. from Kunming Institute of Botany, CAS
5. Juan Song (Dec. 2018-Apr. 2022), postdoc, Ph.D. from Kunming Institute of Botany, CAS
6. Yunting Lei (Jan. 2018-Dec. 2020), Ph.D. from Sichuan University
7. Sen Li (Dec. 2017-Oct. 2023), postdoc, Ph.D. from Zhejiang University
8. Hui Liu (Apr. 2016-June 2019), postdoc, Ph.D. from Kunming Institute of Zoology, CAS
9. Yan Qin (Jul. 2014-Dec. 2017), postdoc, Ph.D. from Kunming Institute of Zoology, CAS
10. Dale Zhang (Oct. 2014.10-Jan. 2015), visiting scientist, Professor at Henan University
11. Christian Hettenhausen (Apr. 2012-Apr. 2018), postdoc, Ph.D. from the Max Planck Institute for Chemical Ecology, Germany, funded by the “Fellowship for Young International Scientists” program from CAS.
12. Jinfeng Qi (Jun. 2012-Dec. 2016), postdoc, Ph.D. from Zhejiang University, China.
13. Maria Heinrich (Oct. 2012-Dec. 2012), visiting scientist, from the Max Planck Institute for Chemical Ecology, Germany.

Ph.D. Theses

1. Jianfei Shi (Sept. 2025-present), Kunming Institute of Botany, CAS
2. Qi Zhang (Sept. 2021-present), Kunming Institute of Botany, CAS
3. Shuhan Zhang (Sept. 2021-present), Kunming Institute of Botany, CAS
4. Junyu He (Sept. 2022-present), Kunming Institute of Botany, CAS
5. Deqing Rong (Sept. 2021-present), Kunming Institute of Botany, CAS
6. Lijian Zhang (Sept. 2021-present), Kunming Institute of Botany, CAS
7. Zerui Feng (Sept. 2020-present), Kunming Institute of Botany, CAS
8. Tianyin Zheng (Sept. 2019-present), Kunming Institute of Botany, CAS
9. Jianxiang Yang (Sept. 2019-June 2025), Kunming Institute of Botany, CAS
10. Man Zhao (Sept. 2019-Nov. 2024), Kunming Institute of Botany, CAS
11. Xijie Zheng (Sept. 2017- Nov. 2024), Kunming Institute of Botany, CAS
12. Che Zhan (Sept. 2017- Nov. 2024), Kunming Institute of Botany, CAS
13. Yohannes Besufekad (Jan. 2019-June 2024), Kunming Institute of Botany, CAS
14. Canrong Ma (Sept. 2018-Nov. 2022), Kunming Institute of Botany, CAS
15. Na Xue (Sept. 2018-Nov. 2022), Kunming Institute of Botany, CAS
16. Shalan Li (Sept. 2016-Nov. 2019), Kunming Institute of Botany, CAS
17. Nian Liu (Sept. 2015-June 2020), Kunming Institute of Botany, CAS
18. Saif Ul Malook (Oct. 2015- June 2019), Kunming Institute of Botany, CAS
19. Jingxiong Zhang (Sept. 2014-Dec. 2020), Kunming Institute of Botany, CAS
20. Yuxing Xu (Sept. 2014- June 2019), Kunming Institute of Botany, CAS
21. Cuiping Zhang (Sept. 2013-June 2020), Kunming Institute of Botany, CAS
22. Chengkai Lu (Sept. 2014-July 2018), Kunming Institute of Botany, CAS
23. Yunting Lei (Apr. 2014-Nov. 2017), The interaction among abscisic acid, jasmonic acid, and strigolactones for regulating plant salt-tolerance and herbivore-resistance. Sichuan University
24. Juan Song (Sept. 2013- July 2018), Kunming Institute of Botany, CAS
25. Huifu Zhuang (Sept. 2013-July 2018), Kunming Institute of Botany, CAS
26. Juan Li (Jan. 2013- Jan. 2016), Studies on the response of the parasitic plant *Cuscuta* to phytohormones and herbivory-induced inter-plant signaling mediated by *Cuscuta*. Huazhong Agricultural University
27. Dahai Yang (Apr. 2007-Mar. 2011), Functions of protein kinases, calcium-dependent protein kinases (CDPKs) and BRI1-associated kinase 1 (BAK1), in wild tobacco (*Nicotiana attenuata*) immunity to herbivore and pathogen. Max Planck Institute for Chemical Ecology.
28. Hendrik Wünsche (Jul. 2008-Jun. 2011), Involvement of two nitric oxide-associated genes, NOA1 and GSNOR, in *Nicotiana attenuata*'s resistance to the specialist insect herbivore *Manduca sexta*. Max Planck Institute for Chemical Ecology.
29. Christian Hettenhausen (Feb. 2007-Dec. 2011), Mitogen-activated protein kinase 4 (MPK4) functions in development and resistance to biotic and abiotic stresses in *Nicotiana attenuata*. Max Planck Institute for Chemical Ecology.
30. Stefan Meldau (Jan. 2007-Mar. 2012), Early herbivory-induced responses in plants. Max

Planck Institute for Chemical Ecology.

31. Maria Heinrich (Jan. 2009-Jul. 2012), Functions of MAPKKs in plant resistance to herbivore in *Nicotiana attenuata*. Max Planck Institute for Chemical Ecology.

Master Theses

1. Min Qian (Sept. 2025-present), Kunming Institute of Botany, CAS
2. Runsen Li (Sept. 2024-present), Kunming Institute of Botany, CAS
3. Xin Zhang (Sept. 2024-present), Kunming Institute of Botany, CAS
4. Wenxing Li (Sept. 2020-June 2024), Kunming Institute of Botany, CAS
5. Zhongxiang Su (Sept. 2019-June 2022), Kunming Institute of Botany, CAS
6. Jinge Bian (Sept. 2018-June 2021), Kunming Institute of Botany, CAS
7. Lei Gao (Sept. 2016-June 2019), Yunnan University
8. Jiaxin Wen (Sept. 2016- June 2019), Yunnan University
9. Menghua Mu (Sept. 2015-July 2018), Kunming Institute of Botany, CAS
10. Lingdan Zhang (Sept. 2013-July 2016), A study on the application of a PEG-mediated transient gene expression system in maize mesophyll protoplasts, Anhui Agricultural University.
11. Chuan Shi (May 2010-Jun. 2011), Die Bedeutung der nonsense-mediated mRNA decay Proteine UPF1, UPF2 und UPF3 im Hinblick auf die Pflanzenentwicklung und der abiotischen und biotischen Stressantwort.

Diploma Theses

1. Christian Hettenhausen (10.2004-07.2006), Characterization of a trypsin protease inhibitor-deficient ecotype of *Nicotiana attenuata* collected from Arizona.
2. Stefan Meldau (Jan. 2005–Dec. 2006), MAP kinase signaling mediates plant defense against herbivores.

Bachelor Theses

1. Yvonn Stampnik (11.2008-05.2009), BAK1 regulates herbivore feeding-induced jasmonic acid accumulation and secondary metabolite contents in *Nicotiana attenuata*