**Jianping hu**

**Peer-Reviewed Publications**

1. **Hu J**, Anderson B, and Wessler SR. (1996). Isolation and characterization of rice R genes: evidence for distinct evolutionary paths in rice and maize. *Genetics* 142, 1021-1031.
2. **Hu J**, Reddy VS, and Wessler SR. (2000). The rice R gene family: two distinct subfamilies containing several miniature inverted-repeat transposable elements. *Plant Mol Biol* 42, 667-678.
3. **Hu J**, Aguirre M, Peto C, Alonso J, Ecker J, and Chory J (2002). A role for peroxisomes in photomorphogenesis and development of Arabidopsis. *Science* 297, 405-409.
4. Yin Y, Cheong H, Friedrichsen D, Zhao Y, **Hu J**, Mora-Garcia S, and Chory J (2002). A

crucial role for the putative Arabidopsis topoisomerase VI in plant growth and development. *Proc Natl Acad Sci USA* 99, 10191-10196.

1. Fan J, Quan S, Orth T, Awai C, Chory J, and **Hu J** (2005). The Arabidopsis *PEX12* gene is required for peroxisome biogenesis and is essential for development. *Plant Physiol* 139, 231-239.
2. Orth T, Reumann S, Zhang X, Fan J, Wenzel D, Quan S, and **Hu J** (2007). The PEROXIN11 protein family controls peroxisome proliferation in Arabidopsis. *Plant Cell* 19, 333-350.
3. **Hu J** (2007). Plant peroxisome multiplication: highly regulated and still enigmatic. *J. Integr Plant Biol* 49 (8), 1112-1118.
4. **Hu J** (2007). Toward understanding plant peroxisome proliferation. *Plant Signal & Behav* 2(4), 308-310.
5. **Hu J** and Desai M (2008). Light control of peroxisome proliferation during Arabidopsis photomorphogenesis. *Plant Signal & Behav* 3(10), 801-803.
6. Desai M and **Hu J** (2008). Light induces peroxisome proliferation in Arabidopsis seedlings through the photoreceptor phytochrome A, the transcription factor HY5 HOMOLOG, and the peroxisomal protein PEROXIN11b. *Plant Physiol* 146, 1117-1127.
7. Zhang X and **Hu J** (2008). FISSION1A and FISSION1B proteins mediate the fission of peroxisomes and mitochondria in Arabidopsis. *Mol Plant* 1, 1036-1047.
8. Zhang X and **Hu J** (2009). Two small protein families, DYNAMIN-RELATED PROTEIN 3 and FISSION 1, are required for peroxisome fission in Arabidopsis. *Plant J* 57, 146-159.
9. Reumann S, Quan S, Aung K, Yang P, Shrestha K, Holbrook D, Linka N, Switzenberg, R, Wilkerson C, Weber AP, Olsen LJ, and **Hu J** (2009). In-depth proteome analysis of Arabidopsis leaf peroxisomes combined with *in vivo* subcellular targeting verification indicates novel metabolic and regulatory functions of peroxisomes. *Plant Physiol* 150, 125-143.
10. Aung K and **Hu J** (2009) The Arabidopsis peroxisome division mutant *pdd2* is defective in the *DYNAMIN-RELATED PROTEIN3A* (*DRP3A*) gene. *Plant Signal & Behav* 4 (6), 542-544.
11. Kaur N, Reumann S, and **Hu J** (2009). Peroxisome biogenesis and function. In *The Arabidopsis Book* 7: e0123, American Society of Plant Biologists, Rockville, MD.
12. Kaur N and **Hu J** (2009)**.** Dynamics of peroxisome abundance: a tale of division and proliferation. *Curr Opin Plant Biol*. 12: 781-788.
13. **Hu J** (2010). Molecular Basis of Peroxisome Division and Proliferation in Plants. In Kwang W. Jeon, editor: International Review of Cell and Molecular Biology, Vol. 279, Burlington: Academic Press, 2010, pp. 79-99.
14. Aung K, Zhang X, and **Hu J** (2010). Peroxisome division and proliferation in plants. *Biochem Soc Trans* 38: 817-822.
15. Zhang X and **Hu J** (2010). The Arabidopsis chloroplast division protein DYNAMIN-RELATED PROTEIN5B also mediates peroxisome division. *Plant Cell* 22: 431-442.
16. Quan S, Switzenberg R, Reumann S, and **Hu J** (2010). *In vivo* subcellular targeting analysis validates a novel peroxisome targeting signal type 2 and the peroxisomal localization of two proteins with putative functions in defense in Arabidopsis. *Plant Signal & Behav* 5 (2): 151-153.
17. Hu L, Liang W, Yin C, Cui X, Zong J, Wang X, **Hu J**, and Zhang D (2011**). Rice MADS3 regulates ROS homeostasis during late anther development.** *Plant Cell* 23: 515-533.
18. Zhang Z, Zhang Y, Tan H, Wang Y, Li G, Liang W, Yuan Z, **Hu J**, Ren H, and Zhang D (2011**). *RICE MORPHOLOGY DETERMINANT* encodes the type II formin FH5 and regulates rice morphogenesis.** *Plant Cell* 23: 681-700.
19. Aung K and **Hu J** (2011). The *Arabidopsis* tail-anchored protein PEROXISOMAL AND MITOCHONDRIAL DIVISION FACTOR1 is involved in the morphogenesis and proliferation of peroxisomes and mitochondria. *Plant Cell* 23: 4446-4461.
20. Pan R, **Hu J** (2011). The conserved fission complex on peroxisomes and mitochondria. *Plant Signal & Behav* 6 (6): 870-872.
21. **Hu J** (2011). Plant cell and signaling biology blooms in the Wuyi mountain. Mol Plant 4: 557-561.
22. Kaur N and **Hu J** (2011). Defining the plant peroxisomal proteome: from *Arabidopsis* to rice. *Front. Plant Sci.* **2**:103. doi: 10.3389/fpls.2011.00103.
23. **Hu J**, Baker A, Bartel B, Linka N, Mullen R, Reumann S, and Zolman B (2012). Plant peroxisomes: biogenesis and function. *Plant Cell* 24: 2279-2303.
24. **Hu J** and Hawes C (2012). Recent advances in plant organelle dynamics. *J. Integr. Plant Biol*. 54 (11): 838-839.
25. Tan X, Liang W, **Hu J**, and Zhang D (2012). *MTR1* encodes a secretory fasciclin glycoprotein required for male reproductive development in rice. *Developmental Cell* 22: 1127-1137.
26. Aung K and **Hu J** (2012). Differential roles of Arabidopsis dynamin-related proteins DRP3A, DRP3B, and DRP5B in organelle division. *J. Integr. Plant Biol*. 54 (11): 921-931.
27. Kaur N, Zhao Q, Xie Q and **Hu J** (2013). Arabidopsis RING peroxins are E3 ubiquitin ligases that interact with two homologous ubiquitin receptor proteins. *J. Integr. Plant Biol*. 55: 108-120. (most highly cited research paper in 2013 for JIPB; selected as the best paper in 2013 by JIPB).
28. Zhang H, Xu C, He Y, Zong, J, Yang, X, Si, H, Sun, Z, **Hu, J**, Liang W and Zhang D (2013). Mutation in *CSA* creates anewphotoperiod-sensitive genic male sterile line applicable for hybrid rice seed production. *Proc Natl Acad Sci USA* 110: 76-81.
29. Niu N, Liang W, Yang, X, Jin W, Wilson ZA, **Hu J** and Zhang D (2013). EAT1 promotes tapetal cell death by regulating aspartic proteases during male reproductive development in rice. Nat Commun 4:1445. doi:10.1038/ncomms2396.
30. Quan S, Yang P, Cassin-Ross G, Kaur N, Switzenberg R, Aung K, Li, J.**, Hu J** (2013) Proteome analysis of peroxisomes from etiolated Arabidopsis seedlings identifies a peroxisomal protease involved in β-oxidation and development. *Plant Physiol* 163: 1518-1538.
31. Kaur N,Li J, **Hu J** (2013). Peroxisomes and photomorphogenesis. Subcell Biochem 69: 195-211.
32. Zhang D, Yuan Z, An G, Dreni L, **Hu J**, Kater MM (2013) Panicle development. Genetics and Genomics of Rice. In Plant Genetics and Genomics: Crops and Models 5. Springer Science + Business Media, New York. pp279-295. DOI 10.1007/978-1-4614-7903-1-19.
33. Aung K, Kaur N, and **Hu J** (2014) Dynamin-related proteins in peroxisome division. In *Molecular machines involved in peroxisome biogenesis and maintenance*, eds Cecile Brocard and Andreas Hartig, Springer-Verlag Wien. pp439-460 (doi 10.1007/978-3-7091-1788-0\_20).
34. Pan R, Jones AG, **Hu J** (2014) Cardiolipin-mediated mitochondrial dynamics and stress response in Arabidopsis. *Plant Cell* 26: 391-409.
35. Cai Q, Yuan Z, Chen M, Yin C, Luo Z, Zhao X, Liang W, **Hu J,** Zhang D (2014) Jasmonic acid regulates spikelet development in rice. Nat Commun 19: 3476. doi: 10.1038/ncomms4476.
36. Pan R, Kaur N, and **Hu J** (2014) The Arabidopsis mitochondrial membrane-bound deubiquitinase UBP27 contributes to mitochondrial morphogenesis. *Plant J.* 78: 1047-1059.
37. Li G, Liang W, **Hu J**, Bennet M, Zhang D (2014) The rice actin-binding protein RMD is a key link in the auxin-actin regulatory loop that controls cell growth. *Proc. Nat. Acad. Sci USA* 111:10377-10382. doi: 10.1073/pnas.1401680111.
38. Cassin-Ross G, and **Hu J** (2014) A simple assay to identify peroxisomal proteins involved in 12-oxo-phytodienoic acid metabolism. *Plant Signal & Behav.* 9:e29464; PMID: 24905580; http://dx.doi.org/10.4161/psb.29464.
39. Desai M, Kaur N, and **Hu J** (2014) Ectopic expression of the RING domain of the Arabidopsis PEROXIN2 protein partially suppresses the phenotype of the photomorphogenic mutant *de-etiolated1*. *PLOS ONE* 9:e108473; doi: 10.1371/journal.pone.0108473.
40. Cassin-Ross G, and **Hu J** (2014) Systematic phenotypic screen of *Arabidopsis* peroxisomal mutants identifies proteins involved in β-oxidation. *Plant Physiol* 166:1546-1559. DOI:10.1104/pp.114.250183.
41. Li J and **Hu J.** (2015) Using co-expression analysis and stress-based screens to uncover Arabidopsis peroxisomal proteins involved in drought response. *PLOS ONE* 10:e0137762; doi: 10.1371/journal.pone.0137762.
42. Pan R and **Hu J** (2015). Plant mitochondrial dynamics and the role of membrane lipids. Plant Signal Behav. doi:10.1080/15592324.2015.1050573.
43. Kaur N, Cross L, Theodoulou F, Baker A, and **Hu J** (2016) Plant peroxisomes: protein import, dynamics, and metabolite transport, in *The Plant Sciences Vol. Cell Biology*, Springer Science Business Media New York. DOI 10.1007/978-1-4614-7881-2\_4-2.
44. Peng, J, Wang T, **Hu J**, Wang YD, and Chen J (2016) Constructing networks of organelle functional modules in Arabidopsis. Current Genomics 17(5):427-38. Selected as “Editor’s Choice”.
45. Rodriguez-Serrano M, Romero-Puertas MC, Sanz-Fernandez M, **Hu J**, Sandalio LM (2016). Peroxisomes extend peroxules in a fast response to stress via a reactive oxygen species-mediated induction of peroxin PEX11a. *Plant Physiol* 171(3):1665-74.
46. Pan R, Satkovich J\*, **Hu J** (2016). E3 ubiquitin ligase SP1 regulates peroxisome biogenesis in Arabidopsis. *Proc Nat Acad Sci* 113: E7307-E7316. (a PNAS Plus article; \*undergraduate researcher).
47. Xu D, Shi J, Rautengarten C, Yang L, Qian X, Uzair M, Zhu L, Luo Q, An G, Waßmanne F, Schreiber L, Heazlewood J, Vibe Scheller H, **Hu J**, Zhang D, Liang W. (2017) *Defective Pollen Wall 2* (*DPW2*) encodes an acyl transferase required for rice pollen development. *Plant Physiol*.173: 240-255.
48. Fahy D, Sanad M.N.M.E., Duscha K, Lyons M, Liu F., Bozhkov P, Kuntz H, **Hu J**, Neuhaus, H.E., Steel P.G., Smertenko A (2017). Impact of salt stress, cell death, and autophagy on peroxisomes: quantitative and morphological analyses using small fluorescent probe N-BODIPY. *Scientific Reports*, 7:39069. DOI: 10.1038/srep39069.
49. Silva J, KimY, Xiao D, Sukweenadhi J, Hu T, Kwon W, **Hu J**, Yang D, Zhang D (2017) Cytological analysis of ginseng carpel development. Protoplasma DOI: 10.1007/s00709-017-1081-4.
50. Desai M, Pan R, **Hu J** (2017). Arabidopsis Forkhead-Associated Domain Protein 3 negatively regulates peroxisome division. *J. Int Plant Biol.* 59: 454-458.
51. Pan R, **Hu J** (2017) Sequence and biochemical analysis of Arabidopsis SP1 protein, a regulator of organelle biogenesis. *Comm. & Int. Biol*. Doi:10.1080/19420889.2017.1338991.
52. Yu J, Han J, KimYJ, Song M, YangZ, HeY, Fu R, Luo Z, **Hu J**, Liang W, Zhang D (2017). Two rice receptor-like kinases maintain male fertility under changing temperatures. *Proc Nat Acad Sci* 114: 12327-12332.
53. Kim YJ, Joo SC, Shi J, Hu C, Quan S, **Hu J**, Sukweenadhi, J, Mohanan P, Yang, DC, Zhang D (2018) Metabolic dynamics and physiological adaptation of *Panax ginseng* during development. *Plant Cell Rep* 37: 393-410.
54. Pan R, **Hu J** (2018) The Arabidopsis E3 ubiquitin ligase SP1 targets to chloroplasts, peroxisomes, and mitochondria. *Plant Physiol* 176: 480-482.
55. Pan R, Satkovich J, Cheng Chen, **Hu J** (2018). The E3 ubiquitin ligase SP1-Like 1 plays a positive role in peroxisome biogenesis in Arabidopsis. *Plant J* 94: 836-846.
56. Pan R, Reumann S, Lisik P, Tiez S, Olsen L, **Hu J** (2018). Proteome analysis of peroxisomes from dark-treated senescent Arabidopsis leaves. *J. Int Plant Biol* 60: 1028-1050. DOI:10.1111/jipb.12670. Selected as high-impact article for the issue.
57. Pan R and **Hu J** (2018). Proteome of plant peroxisomes. *Subcell. Biochem*. 89: 3-45. doi: 10.1007/978-981-13-2233-4\_1.
58. Pan R, Liu J and **Hu J** (2019). Peroxisomes in plant reproduction and seed-related development. *J. Int. Plant Biol.* 61: 784-802.
59. Hu J (2019). Plant peroxisomes: small organelles with versatility and complexity. Special issue on Plant Peroxisomes. *J Int Plant Biol*. 61:782-783.
60. Li J, Tietz S, Cruz J, Strand D, Xu Y, Chen J, Kramer D, and **Hu J** (2019) Photometric screens identified Arabidopsis peroxisome proteins that impact photosynthesis under dynamic light conditions. *Plant J* 97: 460-474.
61. Li J, Weraduwage SM, Preiser AL, Tietz-Rhodes S, Weise SE, StrandDD, Froelich JE, Kramer DM, **Hu J**, Sharkey TD (2019). A cytosolic bypass and G6P shunt in plants lacking peroxisomal hydroxypyruvate reductase. *Plant Physiol*. 180: 783-792.
62. Song Y, Li G, Nowak J, Zhang X, Xu D, Yang X, Huang G, Liang W, Yang L, Wang C, Bulone V, Nikoloski Z, **Hu J**, Persson S, Zhang D (2019). The rice actin-binding protein RMD regulates light-dependent shoot gravitropism. *Plant Physiol*. 181: 630-644.
63. Mondol PC, Xu D, Duan L, Shi J, Wang C, Chen X, Chen M, **Hu J**, Liang W, Zhang D (2019) Defective Pollen Wall 3 (DPW3), a novel alpha integrin-like protein, is required for pollen wall formation in rice. *New Phytologist*. 225:807-822.
64. Pan R. Liu J, Wang S and **Hu J** (2020). Peroxisomes: versatile organelles with diverse roles in plants. *New Phytologist* 225: 1410-1427.
65. Kataya A, **Hu J**, Muench Dand Moorhead G (2020). Plant peroxisomal protein kinases implicated in stress-related responses. In *Protein kinases and stress management in plants: functional genomic perspective*. Wiley-Blackwell. https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119541578.ch22.
66. Li J, Peng J, Jiang X, Rea A, Peng J, **Hu J** (2021). DeepLearnMOR: a deep-learning framework for fluorescence image-based classification of organelle morphology. *Plant Physiol*. 186: 1786-1799.
67. Li S, Cao Li, Chen X, Liu Y, PerssonS, **Hu J**, Chen M, Chen Z, Zhang D, Yuan Z (2021). Synthetic biosensor for mapping dynamic responses and spatio-temporal distribution of jasmonate in rice. *Plant Biotech. J*. https://doi.org/10.1111/pbi.13718.
68. Deng Q, Li H, Feng Y, Xu R, Li W, Zhu R, Akhter D, Shen X, **Hu J** (co-corresponding author), Jiang H, Pan R (2022). Defining upstream enhancing and inhibiting sequence patterns for plant Peroxisome Targeting Signal type 1 using large-scale *in silico* and *in vivo* analyses. *Plant J*. 111: 567-582. doi:10.1111/tpj.15840
69. Akhter D, Zhang Y, **Hu J** (co-corresponding author), Pan R (2023). Protein ubiquitination in plant peroxisomes. *J. Int Plant Biol.* 65： 371-380. DOI: 10.1111/jipb.13346.
70. Zhang P, Zhu W, He Yi H, Fan J, Shi J, **Hu J**, Li L, Zhang D, Liang W (2023). THERMO-SENSITIVE BARREN PANICLE (TAP) is required for panicle and spikelet development under high temperature. *New Phytol*. 237(3):855-869. DOI: 10.1111/nph.18551.
71. Jiang X, Walker B, He SY, **Hu J** (2023) The role of photorespiration in plant immunity. *Front Plant Sci.* DOI: 10.3389/fpls.2023.1125945.
72. Zhang Y, Wang XW, Wang XY, Wang Y, Liu J, Wang S, Li W, Jin Y, Akhter D, Chen J, **Hu J,** Pan R (2023). Bioinformatic analysis of short-chain dehydrogenase/reductase proteins in plant peroxisomes. *Front Plant Sci.* https://doi.org/10.3389/fpls.2023.1180647.
73. Wang L, Patena1 W, Van Baalen KA, Xie Y, Singer ER, Gavrilenko S, Warren-Williams M, Han L, Harrigan HR, Hartz LD, Chen V, Ton V, Kyin S, Shwe HH, Cahn MH, Wilson AT, Onishi M, **Hu J**, Schnell DJ, McWhite CD, Jonikas M (2023). Chloroplast protein atlas reveals novel structures and spatial organization of biosynthetic pathways. *Cell* 186:3499-3518. <https://doi.org/10.1016/j.cell.2023.06.008>. Highlighted on the cover of *Cell*.
74. Feng Y, Wang Y, Lu H, Li J, AkhterD, Liu F, Zhao T, Shen X, Li X, Whelan J, Zhang T, **Hu J**, Pan R (2023). Assembly and phylogenomic analysis of cotton mitochondrial genomes provide insights into the history of cotton evolution. *The Crop Journal*, <https://doi.org/10.1016/j.cj.2023.05.004>.
75. **Hu J** (correspondence), Pan R, Weber AP, Whelan J (2023). Editorial: Photosynthetic and photorespiratory organelles: metabolism, dynamics, and signaling. *Front Plant Sci.* 14:1293246.. DOI: 10.3389/fpls.2023.1293246
76. Koenig AM, Liu B, **Hu J** (2023). Visualizing the dynamics of plant energy organelles. *Biochem Soc Trans*. 51 (6): 2029-2040.<https://doi.org/10.1042/BST20221093>.
77. Song S, Ye C, Jin Y, Dai H, **Hu J**, Lian J, Pan R (2024). Peroxisome-based metabolic engineering for biomanufacturing and agriculture. *Trends in Biotech*. 42 (9): 1161-1176. DOI:<https://doi.org/10.1016/j.tibtech.2024.02.005>
78. WangY, Pan R, **Hu J** (2024).Impact of acute heat stress on mitochondrial function, ultrastructure, and cardiolipin distribution in *Arabidopsis. aBIOTECH* DOI: 10.1007/s42994-024-00151-x.
79. Wang Y, Jin G, Song S, Jin Y, Wang X, Yang S, Shen X, Gan Y, Wang Y, Li R, Liu J, **Hu J**, Pan R (2024). A peroxisomal cinnamate:CoA ligase-dependent phytohormone metabolic cascade in submerged rice germination. *Dev Cell* 59: 1363-1378*.* DOI: 10.1016/j.devcel.2024.03.023.
80. Deng Q, JiangH, **Hu J**, Pan R (2024). Identification of auxiliary organellar targeting signals for plant peroxisomes using statistical analysis of large protein sequence datasets followed by experimental validation. In Photorespiration (Methods and Protocols), ed Walker BJ, Humana New York, NY. https://link.springer.com/book/10.1007/978-1-0716-3802-6.
81. Deng Q, Hong X, Xia Y, Gong Z, Dai H, ChenJ, FengY, ZhangJ, XieX, LiN, Shen X**, Hu J**, Zhang Q, Lang X, Pan R (2024). Comprehensive identification of plant Peroxisome Targeting Signal type 1 tripeptides. *New Phyt*.243: 1642-1650.http://doi.org/10.1111/nph.19955.
82. Xu X, **Hu J**, Yuan Z (2024). Stabilization or degradation? Post-translational modifications of JAZ proteins in plants. *Mol Plant* 17: 1002-1004. <https://doi.org/10.1016/j.molp.2024.06.010>
83. Wang L, Li Q, **Hu J**, Yuan Z (2024). Neofunctionalization of B-class genes in regulating rice flower development. *Seed Biology 3:e013* doi: [10.48130/seedbio-0024-0012](https://doi.org/10.48130/seedbio-0024-0012)
84. Wang Y, Miao H, QiuJ, LiuM, Jin G, ZhangW, SongS, FanP, XinX, **HuJ**, LiR, Pan R (2024). Species- and organ-specific contribution of peroxisomal cinnamate:CoA ligases to benzoic and salicylic acid biosynthesis and function in Arabidopsis and rice. *Plant Cell* 37(1):koae329. doi: 10.1093/plcell/koae329 DOI: [10.1093/plcell/koae329](https://doi.org/10.1093/plcell/koae329) .
85. Jiang X, Koenig A, Walker B, **Hu J** (2025). A cytosolic glyoxylate shunt complements the canonical photorespiratory pathway in Arabidopsis. *Nat Commun*. 16(1): 4057. doi: 10.1038/s41467-025-59349-2.
86. Wang Y, Song S, Zhang W, Deng Q, Feng Y, Tao M, Kang M, Zhang Q, Zhu C, Wang X, Zhu W, Zhu Y, Cao P, Chen J, Pan J, Feng S, Chen X, Yang J, Zhao T, Cao F, Tao Z, Shen X, Last R, **Hu J**, Yu J, Fan P, Pan R. Deciphering phenylalanine-derived salicylic acid biosynthesis in plants. *Nature.* In Press.