

## CURRICULUM VITAE

---

### **Steven A. Whitham**

Department of Plant Pathology & Microbiology  
Iowa State University  
419 Bessey Hall  
Ames, IA 50011-1020

Tel: 515-294-4952  
Fax: 515-294-9420  
email: [swhitham@iastate.edu](mailto:swhitham@iastate.edu)

### **Education:**

- 1995: Ph. D.      Plant Pathology, University of California, Berkeley, CA  
1992: M.S.      Plant Pathology, University of California, Berkeley, CA  
1990: B.S.      Agricultural Biochemistry, Iowa State University, Ames, IA

### **Professional Experience:**

- 2013 -      Director, Center for Plant Responses to Environmental Stresses, Plant Sciences Institute, Iowa State University, Ames, IA
- 2012 -      Professor, Department of Plant Pathology & Microbiology, Iowa State University, Ames, IA
- 2007 -:2012      Associate Professor, Department of Plant Pathology, Iowa State University, Ames, IA
- 2000 -2007:      Assistant Professor, Department of Plant Pathology, Iowa State University, Ames, IA
- 1999 – 2000:      Staff Scientist, Torrey Mesa Research Institute, Inc., San Diego, CA
- 1996 – 1999:      Postdoctoral research, Institute of Biological Chemistry, Washington State University and Department of Biology, Texas A&M University. Advisor: Dr. James C. Carrington
- 1995 - 1996:      Postdoctoral research, Department of Plant Biology, University of California, Berkeley, CA. Advisor: Dr. Barbara Baker
- 1990 - 1995:      Graduate Student, Department of Plant Pathology, University of California, Berkeley, CA. Advisor: Dr. Barbara Baker

### **Honors and Awards:**

- ISU College of Agriculture and Life Sciences Mid-career Outstanding Achievement in Research (2009)  
NIH NRSA Postdoctoral Fellowship. (1996-1999)  
Plant Gene Expression Center award for outstanding research paper. (1994)  
William Carrol-Smith Fellowship. (1990)

### **Affiliations:**

- American Society of Plant Biologists  
American Phytopathological Society  
International Society for Molecular Plant-Microbe Interactions  
American Association for the Advancement of Science

### **Editorial boards:**

- Senior Editor, Molecular Plant Pathology (2009 – present)  
Associate editor, Molecular Plant Microbe Interactions (2005 – 2007), (2011 – present)  
Editorial Board, Virology (2013 – present)  
Editorial board member, Molecular Plant Pathology (2006 – 2008)

**Peer-Reviewed Journal Articles (\* indicates corresponding author):**

1. Moran Lauter, A. N., Peiffer, G. A., Yin, T., **Whitham, S. A.**, Cook, C., Shoemaker, R. C., Graham, M. A.\* (2014) Identification of candidate genes involved in early iron deficiency chlorosis signaling in soybean (*Glycine max*) roots and leaves. *BMC Genomics*. 15:702. [doi: 10.1186/1471-2164-15-702](https://doi.org/10.1186/1471-2164-15-702)
2. Liu, J. Z., Braun, E., Qiu, W. L., Shi, Y. F., Marcelino-Guimarães, F. C., Navarre, D., Hill, J. H., **Whitham, S. A.**\* (2014) Positive and negative roles for soybean MPK6 in regulating defense responses. *Mol. Plant Microbe Interact.* 27:824-834. [doi: 10.1094/MPMI-11-13-0350-R](https://doi.org/10.1094/MPMI-11-13-0350-R)
3. Casteel, C., Yang, C., Nanduri, A., De Jong, H., **Whitham, S. A.**, Jander, G.\* (2014) The Nla-pro protein of *Turnip mosaic virus* improves growth and reproduction of the aphid vector, *Myzus persicae* (green peach aphid). *Plant J.* 77:653-663. [doi: 10.1111/tpj.12417](https://doi.org/10.1111/tpj.12417)
4. Link, T. I., Lang, P., Scheffler, B. E., Duke, M. V., Graham, M. A., Cooper, B., Tucker, M. L., van de Mortel, M., Voegele, R. T., Mendgen, K., Baum, T. J., and **Whitham, S. A.**\* (2014) The haustorial transcriptomes of *Uromyces appendiculatus* and *Phakopsora pachyrhizi* and their candidate effector families. *Mol. Plant Pathol.* 15:379-393. [doi: 10.1111/mpp.12099](https://doi.org/10.1111/mpp.12099)
5. Atwood, S., O'Rourke, J., Peiffer, G., Yin, T., Majumder, M., Zhang, C., Cianzio, S., Hill, J. H., Cook, D., **Whitham, S. A.**, Shoemaker, R. C., Graham, M. A.\* (2014) Replication protein A subunit 3 and the iron efficiency response in soybean. *Plant Cell Environ.* 37:213-234. [doi: 10.1111/pce.12147](https://doi.org/10.1111/pce.12147)
6. Kandoth, P. K., Heinz, R., Yeckel, G., Nathan, G. W., Parijat, J. S., Hill, J., **Whitham, S. A.**, Baum, T. J., Mitchum, M. G.\* (2013) A virus-induced gene silencing method to study soybean cyst nematode parasitism in *Glycine max*. *BMC Res. Notes*. 6:255. [doi: 10.1186/1756-0500-6-255](https://doi.org/10.1186/1756-0500-6-255)
7. Morales, A. M. A. P., O'Rourke, J. A., van de Mortel, M., Schneider, K. T., Bancroft, T. J., Borém, A., Nelson, R. T., Nettleton, D., Baum, T. J., Shoemaker, R. C., Fredrick, R. D., Abdelnoor, R. V., Pedley, K. F., **Whitham, S. A.**, and Graham, M. A.\* (2013) Transcriptome analyses and virus-induced gene silencing identify genes in the *Rpp4*-mediated Asian soybean rust resistance pathway. *Funct. Plant Biol.* 40:1029-1047. [doi: 10.1071/FP12296](https://doi.org/10.1071/FP12296)
8. Pogorelko, G. V., Lionetti, V., Fursova, O., Sundaram, R. M., Qi, M., **Whitham, S. A.**, Bogdanove, A. J., Bellincampi, D., and Zabotina, O. A.\* (2013) Alteration of cell wall polysaccharide acetylation increases plant resistance to fungal pathogens. *Plant Physiol.* 163:9-23. [doi: 10.1104/pp.113.214460](https://doi.org/10.1104/pp.113.214460)
9. Smith, D. L.\*., Fritz, C., Watson, Q., Willis, D. K., German, T. L., , A., Mueller, D., Dittman, J. D., Saalau-Rojas, E., and **Whitham, S. A.** (2013) First report of soybean vein necrosis disease caused by *Soybean vein necrosis-associated virus* in Wisconsin and Iowa. *Plant Disease*. 97:693. [doi: 10.1094/PDIS-11-12-1096-PDN](https://doi.org/10.1094/PDIS-11-12-1096-PDN)
10. Liu, J. Z. and **Whitham, S. A.**\* (2013) Overexpression of a soybean nuclear localized type III DnaJ domain-containing HSP40 reveals its roles in cell death and disease resistance. *Plant J.* 74:110-121. [doi: 10.1111/tpj.12108](https://doi.org/10.1111/tpj.12108)
11. Liu, S., Kandoth, P. K., Warren, S. D., Yeckel, G., Heinz, R., Alden, J., Yang, C., Jamai, A., El-Mellouki, T., Juvale, P. S., Hill, J. H., Baum, T. J., Cianzio, S., **Whitham, S. A.**, Korkin, D., Mitchum, M. G.\*., Meksem, K.\* (2012) A soybean cyst nematode resistance gene points to a new mechanism of plant resistance to pathogens. *Nature*. 492:256-260. [doi: 10.1038/nature11651](https://doi.org/10.1038/nature11651)
12. Zhang, C.\*., Grosic, S., **Whitham, S. A.**, Hill, J. H. (2012) The requirement of multiple defense genes in soybean *Rsv1* mediated extreme resistance to *Soybean mosaic virus*. *Mol. Plant Microbe Interact.* 25:1307-1313. [doi: 10.1094/MPMI-02-12-0046-R](https://doi.org/10.1094/MPMI-02-12-0046-R)

13. Wu, Q., Lin, J., Liu, J.-Z., Wang, X., Lim, W., Oh, M., Park, J., Rajashekhar, C. B., **Whitham, S. A.**, Cheng, N.-H.\* Hirschi, K. D., Park, S.\* (2012) Ectopic expression of Arabidopsis glutaredoxin AtGRXS17 enhances thermotolerance in tomato. *Plant Biotechnol. J.* 10:945-955. [doi: 10.1111/j.1467-7652.2012.00723.x](https://doi.org/10.1111/j.1467-7652.2012.00723.x)
14. Juvale, P. S., Hewezi, T., Zhang, C., Kandoth, P. K., Mitchum, M. G., Hill, J. H., **Whitham, S. A.**, Baum, T. J.\* (2012) Temporal and spatial Bean pod mottle virus-induced gene silencing in soybean. *Mol. Plant Pathol.* 13:1140-1148. [doi: 10.1111/j.1364-3703.2012.00808.X](https://doi.org/10.1111/j.1364-3703.2012.00808.x)
15. Moeller, J. R., Moscou, M. J., Bancroft, T., Skadsen, R. W., Wise, R. P., **Whitham, S. A.**\* (2012) Differential accumulation of host mRNAs on polyribosomes during obligate pathogen-plant interactions. *Mol. BioSyst.* 8:2153-2165. [doi:10.1039/C2MB25014D](https://doi.org/10.1039/C2MB25014D)
16. Liu, J. Z., Horstman, H. D., Braun, E., Graham, M. A., Zhang, C., Navarre, D., Qiu, W. L., Lee, Y., Nettleton, D., Hill, J. H., **Whitham, S. A.**\* (2011). Soybean homologs of MPK4 negatively regulate defense responses and positively regulate growth and development. *Plant Physiol.* 157:1363-1378. doi: 10.1104/pp.111.185686
17. Schneider, K. T., van de Mortel, M., Bancroft, T. J., Braun, E., Nettleton, D., Nelson, R. T., Frederick, R. D., Baum, T. J., Graham, M. A.\* **Whitham, S. A.**\* (2011). Biphasic gene expression changes elicited by *Phakopsora pachyrhizi* in soybean correlates with fungal penetration and haustoria formation. *Plant Physiol.* 157: 355-371. [doi:10.1104/pp.111.181149](https://doi.org/10.1104/pp.111.181149)
18. Cheng, N.\* Liu, J.Z., Liu, X., Wu, Q., Thompson, S. M., Lin, J., Chang, J., **Whitham, S. A.**, Park, S., Cohen, J. D., Hirschi, K. D., (2011). Arabidopsis monothiol glutaredoxin, AtGRXS17, is critical for temperature-dependent postembryonic growth and development via modulating auxin response. *J. Biol. Chem.* 286:20398-20406. [doi: 10.1074/jbc.M110.201707](https://doi.org/10.1074/jbc.M110.201707)
19. Ye, C., Dickman, M. B., **Whitham, S. A.**, Payton, M. E., Verchot, J.\* (2011). The unfolded protein response is triggered by a plant viral movement protein. *Plant Physiol.* 156:741-755. [doi: 10.1104/pp.111.174110](https://doi.org/10.1104/pp.111.174110)
20. Pandey, A. K., Yang, C., Zhang, C., Graham, M. A., Horstman, H. D., Lee, Y., Zabotina, O. A., Hill, J. H., Pedley, K. F.\* **Whitham, S. A.**\* (2011). Functional analysis of the Asian soybean rust resistance pathway mediated by *Rpp2*. *Mol. Plant Microbe Interact.* 24: 194–206. [doi: 10.1094/MPMI-08-10-0187](https://doi.org/10.1094/MPMI-08-10-0187)  
(Highlighted as the Editor's Pick for the February 2011 issue of Mol. Plant Microbe Interactions)
21. Cosson, P., Sofer, L., Le, H., Leger, V., Schurdi-Levraud, V., **Whitham, S. A.**, Gopalan, S., Le Gall, O., Candresse, T., Carrington, J. C., Revers, F.\* (2010). RTM3 which controls long distance movement of potyviruses is a member of a new plant gene family encoding a meprin and TRAF homology (MATH) domain-containing protein. *Plant Physiol.* 154:222-232. [doi: 10.1104/pp.110.155754](https://doi.org/10.1104/pp.110.155754)
22. Zhang, C.\* Bradshaw, J. D., **Whitham, S. A.**, Hill, J. H. (2010). The development of an efficient multi-purpose BPMV viral vector set for foreign gene expression and RNA silencing. *Plant Physiol.* 153:52-65. [doi: 10.1104/pp.109.151639](https://doi.org/10.1104/pp.109.151639)
23. Zhang, C.\* Hajimorad, M. R., Eggenberger, A. L., Tsang, S., **Whitham, S. A.**, Hill, J. H. (2009). Cytoplasmic inclusion cistron of *Soybean mosaic virus* serves as a virulence determinant on *Rsv3*-genotype soybean and a symptom determinant. *Virology.* 391:240-248. [doi:10.1016/j.virol.2009.06.020](https://doi.org/10.1016/j.virol.2009.06.020)
24. Yang, C., Zhang, C., Dittman, J. D., **Whitham, S. A.**\* (2009). Differential requirement of RIBOSOMAL PROTEIN S6 by plant RNA viruses with different translation initiation strategies. *Virology.* 390:163-173. [doi: 10.1016/j.virol.2009.05.018](https://doi.org/10.1016/j.virol.2009.05.018)
25. Meyer, J. D. F., Silva, D. C. G., Yang, C., Pedley, K. F., Zhang, C., van de Mortel, M., Hill, J. H., Shoemaker, R. C., Abdelnoor, R. V., **Whitham, S. A.**, Graham, M. A.\* (2009). Identification and analyses of candidate genes for *Rpp4*-mediated resistance to Asian soybean rust in soybean (*Glycine max* (L.) Merr.). *Plant Physiol.* 150:295-307. [doi: 10.1104/pp.108.134551](https://doi.org/10.1104/pp.108.134551)
26. Zhang, C.\* **Whitham, S. A.** Hill, J. H. (2009). Development and use of an efficient DNA-based viral gene silencing vector for soybean. *Mol. Plant Microbe Interact.* 22:123-131. [doi: 10.1094/MPMI -22-2-0123](https://doi.org/10.1094/MPMI -22-2-0123).

(Ranked in the Top 9 papers of 2009 in Mol. Plant Microbe Interact.,  
<http://www.apsnet.org/journals/apsupdate/apsresearchupdate25.htm>)

27. Tasma, I. M., Brendel, V., **Whitham, S. A.**, Bhattacharyya, M. K.\* (2008). Expression and evolution of the phosphoinositide-specific phospholipase C gene family in *Arabidopsis thaliana*. *Plant Physiol. Biochem.* 46:627-37. [doi: 10.1016/j.plaphy.2008.04.015](https://doi.org/10.1016/j.plaphy.2008.04.015)
28. Shibleth, Y. M., Haronsky, E., Leibman, D., Arazi, T., Wassenegger, M., **Whitham, S. A.**, Gaba, V., Gal-On., A.\* (2007). The conserved FRNK box in plant viral suppressor of gene silencing HC-Pro is required for small RNA binding and mediates symptom development. *J. Virol.* 81:13135-13148. [doi: 10.1128/JVI.01031-07](https://doi.org/10.1128/JVI.01031-07)
29. van de Mortel, M., Recknor, J. C., Graham, M. A., Nettleton, D., Dittman, J. D., Nelson, R. T., Godoy, C. V., Abdelnoor, R. V., Almeida, A. M. R., Baum, T. J.\*, **Whitham, S. A.**\* (2007). Distinct biphasic mRNA changes in response to Asian soybean rust infection. *Mol. Plant Microbe Interact.* 20:887-899. [doi: 10.1094/MPMI-20-8-0887](https://doi.org/10.1094/MPMI-20-8-0887)
30. Wise, R. P.\*., Moscou, M. J., Bogdanove, A. J., **Whitham, S. A.** (2007). Transcript profiling in host-pathogen interactions. *Annu. Rev. Phytopathol.* 45:329-369. [doi: 10.1146/annurev.phyto.45.011107.143944](https://doi.org/10.1146/annurev.phyto.45.011107.143944)
31. Yang, C., Guo, R., Jie, F., Nettleton, D., Peng, J., Carr, T., Yeakley, J. M., Fan, J.-B., **Whitham, S. A.**\* (2007). Spatial and temporal analysis of *Arabidopsis thaliana* gene expression in response to *Turnip mosaic virus* infection. *Mol. Plant Microbe Interact.* 20:358-370. [doi: 10.1094/MPMI-20-4-0358](https://doi.org/10.1094/MPMI-20-4-0358)
32. **Whitham, S. A.**\*, Yang, C., Goodin, M. M. (2006). Global impact: Elucidating plant responses to viral infection. *Mol. Plant Microbe Interact.* 19:1207-1215. [doi: 10.1094/MPMI-19-1207](https://doi.org/10.1094/MPMI-19-1207)
33. Carr, T., Yongzeng, W., Huang, Z., Yeakley, J. M., Fan, J. -B., **Whitham, S. A.**\* (2006). Tobamovirus infection is independent of *HSP101* mRNA induction and protein expression. *Virus Res.* 121:33-41. [doi:10.1016/j.virusres.2006.03.013](https://doi.org/10.1016/j.virusres.2006.03.013)
34. Huang, Z., Yeakley, J. M., Wickham, E., Holdridge, J. D., Fan, J.-B., **Whitham, S. A.**\* (2005). Salicylic acid dependent expression of host genes in compatible *Arabidopsis*-virus interactions. *Plant Physiol.* 137:1147-1159. [doi: 10.1104/pp.104.056028](https://doi.org/10.1104/pp.104.056028)
35. **Whitham, S. A.**\*, Wang, Y. (2004). Roles for host factors in plant viral pathogenicity. *Curr. Op. Plant Biol.* 7:365-371. [doi:10.1016/j.pbi.2004.04.006](https://doi.org/10.1016/j.pbi.2004.04.006)
36. Shou, H., Frame, B. R., **Whitham, S. A.**, Wang, K.\* (2004). Assessment of transgenic maize events produced by particle bombardment or *Agrobacterium*-mediated transformation. *Mol. Breeding.* 13:201-208.
37. **Whitham, S. A.**\*, Quan, S., Chang, H.-S., Cooper, B., Estes, B., Zhu, T., Wang, X., Hou, Y.-M. (2003). Diverse RNA viruses elicit the expression of common sets of genes in susceptible *Arabidopsis thaliana* plants. *Plant J.* 33:271-283. [doi: 10.1046/j.1365-313X.2003.01625.x](https://doi.org/10.1046/j.1365-313X.2003.01625.x)
38. Lellis, A. D., Kasschau, K. D., **Whitham, S. A.**, Carrington, J. C.\* (2002). Loss-of-susceptibility mutants of *Arabidopsis thaliana* reveal an essential role for eIF(iso)4E during potyvirus infection. *Current Biology*, 12:1046-1051. [doi:10.1016/S0960-9822\(02\)00898-9](https://doi.org/10.1016/S0960-9822(02)00898-9)
39. Chen, W., Provart, N. J., Glazebrook, J., Katagiri, F., Chang, H. S., Eulgem, T., Mauch, F., Luan, S., Zou, G., **Whitham, S. A.**, Budworth, P. R., Tao, Y., Xie, Z., Chen, X., Lam, S., Kreps, J. A., Harper, J. F., Si-Amour, A., Mauch-Mani, B., Heinlein, M., Kobayashi, K., Hohn, T., Dangl, J. L., Wang, X., Zhu, T.\* (2002). Expression profile matrix of *Arabidopsis* transcription factor genes suggests their putative functions in response to environmental stresses. *Plant Cell*, 14:559-574. [doi: 10.1105/tpc.010410](https://doi.org/10.1105/tpc.010410)
40. Paskowski, J.\*., **Whitham, S.** (2001). Gene silencing and DNA methylation processes. *Curr. Opin. Plant Biol.* 4:123-129. [doi:10.1016/S1369-5266\(00\)00147-3](https://doi.org/10.1016/S1369-5266(00)00147-3)

41. Whitham, S. A., Anderberg, R. J., Chisholm, S. T., Carrington, J. C.\* (2000). *RTM2* is required for resistance to tobacco etch virus in *Arabidopsis* and encodes a unique protein with similarity to small heat shock proteins. *Plant Cell.* 12:569-582. PMCID: PMC139854
42. Chisholm, S. T., Mahajan, S. K., Whitham, S. A., Yamamoto, M. L., Carrington, J. C.\* (2000). *RTM1* is required for resistance to tobacco etch virus in *Arabidopsis* and encodes a protein with similarity to the lectin jacalin. *Proc. Natl. Acad. Sci. USA.* 97:489-94. PMCID: PMC26690
43. Whitham, S. A., Yamamoto, M. L., Carrington, J. C.\* (1999). Selectable viruses and altered susceptibility mutants in *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. USA.* 96:772-777. PMCID: PMC15212
44. Hehl, R., Faurie, E., Hesseslbach, J., Salamini, F., Whitham, S., Baker, B., Gebhardt, C.\* (1999). TMV resistance gene *N* homologs are linked to *Synchytrium endobioticum* resistance in potato. *Theor. Appl. Genet.* 98:379-386. [doi: 10.1007/s001220051083](https://doi.org/10.1007/s001220051083)
45. Carrington, J. C.\*., Whitham, S. A. (1998). Viral invasion and host defense: strategies and counter-strategies. *Curr. Op. Plant Biol.* 1:336-341. [doi:10.1016/1369-5266\(88\)80056-6](https://doi.org/10.1016/1369-5266(88)80056-6)
46. Mahajan, S. K., Chisholm, S. T., Whitham, S. A., Carrington, J. C.\* (1998). Identification and characterization of a locus (*RTM1*) that restricts long-distance movement of tobacco etch virus in *Arabidopsis thaliana*. *Plant J.* 14:177-186. [doi: 10.1046/j.1365-313X.1998.00105.x](https://doi.org/10.1046/j.1365-313X.1998.00105.x)
47. Whitham, S., McCormick, S., Baker, B.\* (1996). The *N* gene from tobacco confers resistance to tobacco mosaic virus in transgenic tomato. *Proc. Natl. Acad. Sci. USA.* 93:8870-8781. PMCID: PMC38750
48. Dinesh-Kumar, S. P., Whitham, S., Choi, D., Hehl, R., Corr, C., Baker, B.\* (1995). Transposon tagging of the tobacco mosaic virus resistance gene *N*: Its possible role in the TMV-*N* mediated signal transduction pathway. *Proc. Natl. Acad. Sci. USA* 92:4175-4180. PMCID: PMC41906
49. Whitham, S., Dinesh-Kumar, S. P., Choi, D., Hehl, R., Corr, C., Baker, B.\* (1994). The product of the tobacco mosaic virus resistance gene *N*: Similarity to Toll and the Interleukin-1 Receptor. *Cell* 78:1101-1115. [doi:10.1016/0092-8674\(94\)90283-6](https://doi.org/10.1016/0092-8674(94)90283-6)
50. Negrerie, M., Bellefeuille, S. M., Whitham, S., Petrich, J. W., Thornburg, R. W. (1990). Novel noninvasive in situ probe of protein structure and dynamics. *J. Am. Chem. Soc.* 112(20); 7419-7421. [doi: 10.1021/ja00176a066](https://doi.org/10.1021/ja00176a066)

**Book Chapters (\* indicates corresponding author):**

1. Whitham, S. A.\*., Eggenberger, A. L., Zhang, C., Chowda-Reddy, R. V., Martin, K. M., Hill, J. H. (Awaiting publication). Recent advances in *in planta* transient expression and silencing systems for soybean using viral vectors. In *Recent Advances in Gene Expression and Enabling Technologies in Crop Plants*. Edited by Azhakanandam, K., Silverstone, A., Daniell, H., Davey, M. Springer.
2. Zhang, C.\*., Whitham, S. A., Hill, J. H. (2013) Virus-induced gene silencing in soybean and common bean. *Methods Mol. Biol.* 975:149-156. [doi: 10.1007/978-1-62703-278-0\\_11](https://doi.org/10.1007/978-1-62703-278-0_11)
3. Miller, W. A.\*., Whitham, S. A. (2013). Plant Viruses. In *Fields Virology*. Edited by D. M. Knipe. Lippincott, Williams, & Wilkins. Philadelphia, PA.
4. Whitham, S. A.\*., Yang, C. (2010). Spatial analysis of the effects of viral infection on host gene expression by macro dissection and microarray analysis. In *Principles and practice of advanced methods in plant virology*. Edited by A. Wang. Research Signpost. Kerala, India. pp 131-140.
5. Carr, T., Whitham, S. A.\* (2007). An emerging model system: *Arabidopsis* as a viral host plant. In *Viral Transport in Plants*. Springer book series: *Plant Cell Monographs*. Edited by E. Waigman and M. Heinlein. Springer-Verlag GmbH, Heidelberg, Germany. pp. 159-183

6. **Whitham, S. A.\*** (2004). Viral Host Genomics. In *Encyclopedia of Plant and Crop Science*. Edited by R. M. Goodman. Marcel Dekker, Inc., New York, NY. pp. 1269-1272
7. **Whitham, S. A.\***, Dinesh-Kumar, S. P. (2002). Signaling in plant-virus interactions. In *Plant Signal Transduction: Frontiers in Molecular Biology*. Edited by D. Scheel and C. Wasternack. Oxford University Press. pp. 226-242
8. **Whitham, S. A.\***, Hou, Y.-M., Quan, S., Zhu, T., Chang, H.-S., Wang, X. (2002). Microarray analysis to identify common gene expression changes induced by RNA viruses. In *Biology of Plant-Microbe Interactions Volume 3*. Edited by S. A. Leong, C. Allen, and E. W. Triplett. International Society for Molecular Plant-Microbe Interactions. pp. 152-157

**Patents:**

Hill, J. H.\*., Zhang, C., **Whitham, S. A.** (2013). BPMV-based viral constructs useful for VIGS and expression of heterologous proteins in legumes. United States Patent Number 8,569,579

Baker, B.\*., **Whitham, S.** (1996). Plant Virus Resistance Gene and Methods. United States Patent Number 5,571,706