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Education

- 9/85 - 6/90: Harvard University Department of Cellular and Developmental Biology. Ph.D. awarded 6/90. Ph.D. Advisor: Richard Losick. Dissertation: "Temporal and Spatial Regulation of Mother Cell gene expression during sporulation in *Bacillus subtilis*".
- 9/81 - 12/84: University of California, Davis. B. S. in Genetics awarded 1984.

Professional Career

- 7/2011 - present Full Professor, Department of Biology.
Washington University, St. Louis, MO
- 9/2015 - present Co-Director, BioSURF Summer Undergrad. Research Fellowship Program, Washington University, St. Louis, MO
- 9/2009 - 7/2010 Visiting Scientist (while on academic sabbatical)
Institut des Sciences du Végétal, Centre National de la Recherche Scientifique (CNRS), Gif-sur-Yvette, France
- 7/2008 - 8/2015 Director, HHMI/Summer Undergrad. Research Fellowship Program
Washington University, St. Louis, MO
- 1/2008 - 7/2013 Program Director, Graduate Program in Plant Biology
Division of Biology and Biomedical Sciences
Washington University, St. Louis MO
- 4/2002 - 6/2011: Associate Professor, Department of Biology.
Washington University, St. Louis, MO
- 4/1994 - 3/2002: Assistant Professor, Department of Biology.
Washington University, St. Louis, MO
- 6/1990 - 3/1994: Postdoctoral research; Department of Plant Biology,
University of California at Berkeley.
- 6/1986 - 6/1990: Graduate studies; Department of Cellular and Developmental Biology, Harvard University.
- 3/1985-8/1985: Research Assistant, laboratory of Ethan Signer, Department of Biology, MIT.
- 6/1984-9/1984 Research Assistant in laboratory of Professor Michael Freeling,
6/1983-8/1983: Department of Genetics, University of California, Berkeley.

Fellowships and Honors

David Hadas Teaching Award 2016
Emerson Excellence in Teaching Award 2015
Faculty Teaching Fellowship, AAU Undergrad STEM Education Initiative 2013-present
Promoted to Full Professor, Washington University 2011
Promoted to Associate Professor with Tenure, Washington University 2002
Packard Foundation Fellowship 1996-2003
Searle Scholar 1996-1999
American Cancer Society-California Division Postdoctoral Fellowship 1993-1994.
Life Sciences Research Foundation Postdoctoral Fellowship, 1990-1993.
National Science Foundation Graduate Fellowship, 1986-1989.
Alden S. Crafts Award. University of California, Davis, 1983

Professional Societies

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

Selected Publications (2000-2016)

1. Kloek, A., D. M. Brooks and **B. N. Kunkel**. 2000. A *dsbA* mutant of *P. syringae* exhibits reduced virulence and partial impairment of Type III secretion. *Mol. Plant Pathol.* 1: 139-150.
2. Chen, Z., A. P. Kloek, J. Boch, F. Katagiri and **B. N. Kunkel**. 2000. The *Pseudomonas syringae avrRpt2* gene product promotes pathogen virulence from inside plant cells. *Molec. Plant-Microbe Interact.* 13:1312-1321.
3. Kloek, A. P., M. L. Verbsky, S. B. Sharma, J. E. Schoelz, J. Vogel, D. F. Klessig, and **B. N. Kunkel**. 2001. Resistance to *Pseudomonas syringae* conferred by an *Arabidopsis thaliana* coronatine insensitive (*coi1*) mutation occurs through two distinct mechanisms. *Plant J.* 26:509-522.
4. Stokes, T. L., **B. N. Kunkel** and E. J. Richards. 2002. Epigenetic variation in *Arabidopsis* disease resistance. *Genes Dev.* 16: 171-182.
5. Boch, J., V. Joardar, L. Gao, T. L. Robertson, M. Lim, and **B. N. Kunkel**. 2002. Identification of *Pseudomonas syringae* genes induced during infection of *Arabidopsis thaliana*. *Mol. Microbiol.* 44: 73-88.
6. Zweisler-Vollick, J. A. Plovanich-Jones, K. Nomura, S. Bandyopadhyay, V. Joardar, **B. N. Kunkel** and S. Y. He. 2002. Identification of novel *hrp*-regulated genes through functional genomic analysis of the *Pseudomonas syringae* pv. *tomato* DC3000 genome. *Mol. Microbiol.* 45: 1207.
7. **Kunkel, B. N.** and D. M Brooks. 2002 Cross talk between signaling pathways in pathogen defense. *Current Op Plant Biol.* 5:325-331.

8. Brooks, D. M., Guzman, G. H., Kloek, A. P., Alarcón-Chaidez, F., Raghavan, A., Rangaswamy, V., Peñaloza-Vázquez, A., Bender, C. L., and **B. N. Kunkel**. 2004. Identification and characterization of a defined series of coronatine biosynthetic mutants of *Pseudomonas syringae* pathovar *tomato* strain DC3000. *Mol. Plant-Microbe Interact.* 17:162-274.
9. Chen, Z., Kloek, A. P., Cuzick, A., Moeder, W., Tang, D., Innes, R. W., Klessig, D.F., McDowell, J. M. and **B. N. Kunkel**. 2004. The *Pseudomonas syringae* type III effector AvrRpt2 functions down stream or independently of SA to promote virulence on *Arabidopsis*. *Plant J.* 37: 494-504.
10. He, P., Chintamanani, S., Chen, Z., Zhu, L., **Kunkel, B. N.**, Alfano, J. R., Tang, Z., and J. Zhou. 2004. Activation of a *COI1*-dependent pathway in *Arabidopsis* by *Pseudomonas syringae* type III effectors and coronatine. *Plant J.* 37:589-602.
11. Lim, M. T. S. and **B. N. Kunkel**. 2004. Mutations in the *Pseudomonas syringae* *avrRpt2* gene that dissociate its virulence and avirulence activities lead to decreased efficiency in the AvrRpt2-induced disappearance of RIN4. *Molec. Plant-Microbe Interact.* 17: 313-321.
12. Lim, M. T. S., and **B. N. Kunkel**. 2004. The *Pseudomonas syringae* type III effector AvrRpt2 promotes virulence independently of RIN4, a predicted virulence target in *Arabidopsis thaliana*. *Plant J.* 40: 790-798.
13. Kover, P. X., Wolf, J. B., **Kunkel, B. N.**, and J. M. Cheverud. 2005. The genetic architecture of *Arabidopsis thaliana* response to infection by *Pseudomonas syringae*. *Heredity* 94:507-517.
14. Lim, M. T. S. and **B. N. Kunkel**. 2005. The *Pseudomonas syringae* gene *avrRpt2* contributes to virulence on tomato. *Molec. Plant-Microbe Interact.* 18: 626-633.
15. Preiter, K., Brooks, D. M., Penaloza-Vazquez, A., Sreedharan, A., Bender, C. L., and **B. N. Kunkel**. 2005. Novel virulence gene of *Pseudomonas syringae* pathovar tomato strain DC3000. *J. Bacteriol.* 187: 7805-14.
16. Brooks, D. M., Bender, C. L., and **B. N. Kunkel**. 2005. The *Pseudomonas syringae* phytotoxin coronatine promotes virulence by overcoming salicylic acid-dependent defences in *Arabidopsis thaliana*. *Mol. Plant Pathol.* 6: 629-639.
17. **Kunkel, B. N.** and Z. Chen. 2006. Virulence strategies of plant pathogenic bacteria. *In* The Prokaryotes, Vol. 2 pp. 421-440. M. Dworkin et al., eds. Springer, New York <http://www.springerlink.com/content/r785233736010085/fulltext.html>
18. Laurie-Berry, N., Joardar, V., Street, I. H., and **B. N. Kunkel**. 2006. The *Arabidopsis thaliana* *JASMONATE INSENSITIVE 1* gene is required for suppression of salicylic acid-dependent defenses during infection by *Pseudomonas syringae*. *Molec. Plant-Microbe Interact.* 19: 789-800.

19. Sreedharan, A., Penaloza-Vazquez, A., **Kunkel, B. N.**, and Bender, C. L. 2006. CorR regulates multiple components of virulence in *Pseudomonas syringae* pv. *tomato* DC3000. *Molec. Plant-Microbe Interact.* 19: 768-779.
20. Uppalapati, S. R, Ishiga, Y. Wangdi, W., **Kunkel, B. N.**, Anand, A., Mysore, K. S and C. L. Bender. 2007. The phytotoxin coronatine contributes to pathogen fitness and is required for suppression of salicylic acid accumulation in tomato inoculated with *Pseudomonas syringae* pv. *tomato* DC3000. *Mol. Plant-Microbe Interact.* 20:955-965.
21. Chen, Z., Agnew, J. L., Cohen, J. D., He, P., Shan, L., Sheen, J. and **B. N. Kunkel.** 2007. *Pseudomonas syringae* type III effector AvrRpt2 alters *Arabidopsis thaliana* auxin physiology. *Proc. Nat. Acad. Sci. USA.* 104: 20131-20136.
22. Mellgren, E. M., Kloek Andrew P. and **B. N. Kunkel,** 2009. Mqo, a tricarboxylic acid cycle enzyme, is required for virulence of *Pseudomonas syringae* pv. *tomato* strain DC3000 on *Arabidopsis thaliana*. *J. Bacteriol.* 191:3132-3141.
23. Demianski. A. J., Chung, K. Mi, and **B. N. Kunkel.** 2012. Analysis of JAZ gene expression during *Pseudomonas syringae* pathogenesis reveals that *JIN1/AtMYC2* regulates only a subset of JAZ genes and that *JAZ10* is a negative regulator of disease symptom development. *Mol Plant Pathol.* 13: 46–57
24. Melotto, M. and **Kunkel, B.N.** 2013. Virulence strategies of plant pathogenic bacteria. In: *The Prokaryotes*, 4th Ed. Rosenberg E, Stackebrand E, DeLong EF, Thompson F, Lory S (eds). Springer-Verlag, Berlin: doi: 10-1007/978-3-642-30141-4_62.
25. Mutka, A. M., Fawley, S., Tsao, T., and **B. N. Kunkel.** 2013. Auxin promotes susceptibility to *Pseudomonas syringae* via a mechanism independent of suppression of salicylic acid-mediated defenses. *Plant J.* 74: 746–754
26. Cui, F., Wu, S., Sun, W., Coaker, G., **Kunkel, B. N.**, He, P. and Shan, L. 2013. *Pseudomonas syringae* type III effector AvrRpt2 promotes pathogen virulence via stimulating *Arabidopsis* Aux/IAA protein turnover. *Plant Physiol.* 162: 1018–1029.
27. Shi, W., Zeng, Q., **Kunkel, B.N.**, and Running, M.P. 2016. *Arabidopsis* Rab Geranylgeranyltransferases Demonstrate Redundancy and Broad Substrate Specificity *in vitro*. *J. of Biol. Chem.* 291: 1398-1410.
28. Prigge, M., Greenham, K., Zhang, Y., Santner, A., Castillejo, C., Mutka, A. M., O'Malley, R. C., Ecker, J.R., Kunkel, B. N., and Estelle, M. 2016. The *Arabidopsis* Auxin Receptor F-box proteins AFB4 and AFB5 are Required for Response to the Synthetic Auxin Picloram. *Genes Genomes Genetics* 6:1383-90.
29. McClerklin, S., Lee, S. G., Nwumeh, R., Jez, J.M. and **Kunkel, B.N.** *Pseudomonas syringae* Indole-3-Acetaldehyde Dehydrogenase-dependent Auxin Synthesis Contributes to Virulence of *Pseudomonas syringae* Strain DC3000. Submitted.