

CURRICULUM VITAE

Kier D. Klepzig

Project Leader, Research Entomologist

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Professional Experience

Project Leader SRS-450_ 2006 to present

Project Leader SRS-4501 1998 to 2006

Research Entomologist 1995 to present

Southern Research Station
USDA Forest Service, Pineville, LA

**Adjunct Associate
Professor**

1997 to present

Entomology, Louisiana State University, Baton Rouge, LA

Assistant Professor

1994 to 1995 - Forest Pathology/Forest Entomology

Plant and Soil Sciences, Urban Forestry Program
Southern University, Baton Rouge, LA

Educational Experience

Ph.D.

1994 - Plant Pathology/Entomology (Double Major)

University of Wisconsin - Madison, Madison, WI

“Interactions of stress, plant chemical defenses and subcortical
insect-fungal complexes in red pine decline.”

M.S.

1989 - Plant Pathology/Entomology (Double Major)

University of Wisconsin - Madison, Madison, WI

“Association of Leptographium spp., insect vectors and root
mortality with red pine pocket decline and mortality.”

B.S.

1986 - Reclamation/Biology (Double Major)

Scholastic honors, magna cum laude.

University of Wisconsin - Platteville, Platteville, WI

REFEREED PUBLICATIONS

1. Cairns, D.M., C.W. Lafon, J.D. Waldron, M. Tchakerian, R.N. Coulson, K.D. Klepzig, A.G. Birt, W. Xi. 2006. Landscape pattern and process in simulated southern pine beetle outbreaks. *Landsc. Ecol.*: *Submitted.*
2. Knebel, L., D.J. Robison, T.R. Wentworth and K.D. Klepzig. 2006. Resin flow responses to fertilization, wounding, and fungal inoculation in loblolly pine (*Pinus taeda*) in North Carolina. *Tree Physiol.*: *Submitted.*
3. Fettig, C.J., K.D. Klepzig, R.F. Billings, A.S. Munson, T.E. Nebeker, J.F. Negrón, J.T. Nowak. 2006. The effectiveness of vegetation management practices for mitigating the negative impacts of bark beetles on coniferous forests in the United States. *For. Ecol. Manag.*: *Submitted.*
4. Ayres, M.P., M.J. Lombardero, R.W. Hofstetter, K.D. Klepzig, and J.C. Moser. 2006. When 'isms collide: mutualisms, commensalisms, and antagonisms among plant enemies. *American Naturalist* : *Submitted.*
5. Kang, Y.M. C. Yuceer, and K.D. Klepzig. 2006. Development of a submerged culture system for mapping the proteome of *Entomocorticium* sp. A, a mutualistic fungal associate of the southern pine beetle. *Mycologia*: *Submitted.*
6. Hofstetter, R.W., T.D. Dempsey, K.D. Klepzig, and M.P. Ayres. 2006. Temperature-dependence of symbiotic interactions among fungi, mites and the southern pine beetle. *Appl. Env. Microbiol.*: *Submitted*
7. Waldron, J.D., C.W. Lafon, R.N. Coulson, D.M. Cairns, M.D. Tchakerian, A. Birt, and K.D. Klepzig. 2006. Simulating the impacts of southern pine beetle and fire on the dynamics of xerophytic pine landscapes in the southern Appalachian mountains. *Applied Vegetation Science* 9:000-000.
8. Hofstetter, R.W., J.T. Cronin, K.D. Klepzig, J.C. Moser & M.P. Ayres. 2006. Antagonisms, mutualisms, and commensalisms affect outbreak dynamics of the southern pine beetle. *Oecologia* 145:000-000.
9. Klepzig, K.D. 2006. Melanin and the southern pine beetle-fungus symbiosis. *Symbiosis* 40: 137-140
10. Hofstetter, R.W., K.D. Klepzig, J.C. Moser, and M.P. Ayres. 2006. Seasonal dynamics of mites and fungi and their effects on the southern pine beetle. *Env. Entomol.* 35:22-30.
11. Hofstetter, R.W., J.B. Mahfouz, K.D. Klepzig & M.P. Ayres. 2005. Effects of tree phytochemistry on the interactions among endophloedic fungi associated with the southern pine beetle. *J. Chem. Ecol.* 31:551-572.
12. Kopper, B.J., B.L. Illman, P.J. Kersten, K.D. Klepzig, and K.F. Raffa. 2005. Effects of diterpene acids on components of a conifer - bark beetle-fungal interaction: Tolerance by *Ips pini* and sensitivity by its associate *Ophiostoma ips*. *Environ. Entomol.* 34:486-493.
13. Klepzig, K.D., D.J. Robison, G. Fowler, P.R. Minchin, F.P. Hain, and H.L. Allen. 2005. Effects of mass inoculation on induced oleoresin response in intensively managed loblolly pine. *Tree Physiol.* 25:681-688.
14. Shepherd, W.P., B.T. Sullivan, R.A. Goyer, and K.D. Klepzig. 2005. Electrophysiological and olfactometer responses of two histereid predators to three pine bark beetle pheromones. *J. Chem. Ecol.* 31:1101-1110.
15. Moser, J.C., B.A. Fitzgibbon, and K.D. Klepzig. 2005. The Mexican pine beetle (*Dendroctonus mexicanus*), a new invasive species in the United States. *Entomol. News* 116:235-244.
16. Zhou, X., T. Burgess, Z.W. De Beer, F. Lieutier, A. Yart, K. Klepzig, A. Carnegie, J. Mena-Portales, B. Wingfield, and M. Wingfield. 2005. Southern Hemisphere introductions of the sapstain fungus,

Ophiostoma ips, cannot be linked to the global movement of its bark beetle vectors. *Molecular Ecology* 15:000-000.

17. Vasanthakumar, A., I. Delalibera, Jr, J. Handelsman, K.D. Klepzig, and K.F. Raffa. 2005. Characterization of gut-associated microorganisms in larvae and adults of the southern pine beetle, *Dendroctonus frontalis*Zimmermann. *Env. Entomol.* 35:000-000.
18. Cardoza, Y.J., K.D. Klepzig, and K.F. Raffa. 2006. Endophytic insect deploys bacteria in oral secretions to defend against gallery-invading fungi. *Ecol. Entomol.* 31:000-000.
19. Zhou , X.D., Z.W. deBeer, K.D. Klepzig, and M. J. Wingfield. 2005. Morphologically similar *Ophiostoma* spp. associated with *Ips calligraphus* (Coleoptera: Scolytinae) from Mexico and the USA. *Fungal Diversity: Submitted.*
20. Hofstetter, R.W., K.D. Klepzig, J.C. Moser, and M.P. Ayres. 2005. Temporal dynamics of beetles, mites and fungi: Potential indirect effects and endogenous feedback. *Oecologia. Submitted*
21. Hofstetter, R.W., M.J. Lombardero, K.D. Klepzig and M.P. Ayres. 2005. Effects of pine oleoresin on bark beetle attack behavior and population dynamics. *Ecol. Entom. Submitted*
22. Lafon, C.W., J.D. Waldron, D.M. Cairns, M.D. Tchakerian, R.N. Coulson, K.D. Klepzig. 2005. Modeling the effects of fire on the long-term dynamics and restoration of yellow pine and oak forests in the southern Appalachian Mountains. *For. Ecol. Manag. Submitted.*
23. Klepzig, K.D. and D.L. Six. 2004. Bark beetle fungal symbiosis: Context dependency in complex interactions. *Symbiosis* 37:189-206.
24. Klepzig, K.D., J.Flores-Otero, R.W. Hofstetter, and M.P. Ayres. 2004. Effects of available water on growth and competition of southern pine beetle associated fungi. *Mycol. Res.* 108:183-188.
25. Six, D.L., and Klepzig, K.D. 2004. *Dendroctonus* bark beetles as model systems for the study of symbioses. *Symbiosis* 37:207-232.
26. Eckhardt, L.G., R.A. Goyer, K.D. Klepzig, and J.P. Jones. 2004. Interactions of *Hylastes* species (Coleoptera:Scolytidae) with *Leptographium* species associated with loblolly pine decline. *Econ. Entomol.* 97:468-474.
27. Eckhardt, L.G., Jones, J.P., and Klepzig, K.D. 2004. Pathogenicity of *Leptographium* species associated with loblolly pine decline. *Pl. Dis.* 88: 1174-1178.
28. Kopper, B.J., K.D. Klepzig, and K.F. Raffa. 2004. Components of antagonism and mutualism in *Ips pini* – fungal interactions: relationship to a life history of colonizing highly stressed and dead trees. *Environ. Entomol.* 33:28-34.
29. Kopper, B.J., K.D. Klepzig, and K.F. Raffa. 2003. Effectiveness of modified White’s solution at removing ascomycete fungi associated with the bark beetle, *Ips pini*. *For. Pathol.* 33:237-240.
30. Lombardero, M.J., M.P. Ayres, R.W. Hofstetter, J.C. Moser, and K.D. Klepzig. 2003. Strong indirect interactions of *Tarsonemus* mites (Acarina, Tarsonemidae) and *Dendroctonus frontalis* (Coleoptera: Scolytidae). *Oikos* 102:243-252.
31. Veysey, J.S., M.P. Ayres, M.J. Lombardero, R.W. Hofstetter, and K.D. Klepzig. 2003. Relative suitability of Virginia pine and loblolly pine as host species for *Dendroctonus frontalis* (Coleoptera: Scolytidae). *Environ Entomol.* 32:668-679.

32. Erbilgin, N., A. Szele, K.D. Klepzig, and K.F. Raffa. 2001. Trap type, chirality of α -pinene, and geographic region affect sampling efficiency of root and lower stem insects in pine. *J. Econ. Entomol.* 94 (5):1113-1121.
33. Klepzig, K.D., J.C. Moser, F.J. Lombardero, R.W. Hofstetter, and M.P. Ayres. 2001. Symbiosis and competition: Complex interactions among beetles, fungi and mites. *Symbiosis* 30:83-96.
34. Lombardero, M.J., K.D. Klepzig, J.C. Moser, and M.P. Ayres. 2000. Biology, demography, and community interactions of *Tarsonemus* (Acarina: Tarsonemidae) mites phoretic on *Dendroctonus frontalis* (Coleoptera: Scolytidae). *Agricultural and Forest Entomology.* 2:193-202.
35. Klepzig, K.D., and F. Schlyter. 1999. Laboratory evaluation of plant derived antifeedants against European pine weevil, *Hylobius abietis*. *J. Econ. Entomol.* 92:644-650.
36. Klepzig, K.D. 1998. Competition between a biological control fungus, *Ophiostoma piliferum*, and symbionts of the southern pine beetle. *Mycologia* 90:69-75.
37. Klepzig, K.D., and R.T. Wilkens. 1997. Competitive interactions among symbiotic fungi of the southern pine beetle. *Appl. Env. Microbiol.* 63:621-627.
38. Klepzig, K.D., D.J. Robison, E.B. Smalley, and K.F. Raffa. 1997. Folivore induced resistance of hybrid poplar (*Populus*) to a fungal pathogen. *Great Lakes Entomol.* 30:99-104.
39. Klepzig, K.D., E.B. Smalley and K.F. Raffa. 1996. Interactions of ecologically similar saprogenic fungi with healthy and abiotically stressed conifers. *For. Ecol. Manag.* 86:163-169.
40. Klepzig, K.D., E.B. Smalley and K.F. Raffa. 1996. Combined chemical defenses against an insect-fungal complex. *J. Chem. Ecol.* 22:1367-1388.
41. Klepzig, K.D., E.B. Smalley and K.F. Raffa. 1995. *Dendroctonus valens* and *Hylastes porculus* : vectors of pathogenic fungi associated with red pine decline disease. *Great Lakes Entomol.* 28:81-87.
42. Klepzig, K.D., E.L. Kruger, E.B. Smalley and K.F. Raffa. 1995. Effects of biotic and abiotic stress on induced accumulation of terpenes and phenolics in red pines inoculated with bark beetle- vectored fungus. *J. Chem. Ecol.* 21:601-626.
43. Klepzig, K.D., K.F. Raffa and E.B. Smalley. 1991. Association of an insect- fungal complex with red pine decline in Wisconsin. *Forest Sci.* 37:1119-1139.
44. Raffa, K.F. and K.D. Klepzig. 1989. Chiral escape of bark beetles from predators responding to a bark beetle pheromone. *Oecologia* 80: 566-569.

OTHER PUBLICATIONS

1. Raffa, K.F., B.H. Aukema, N. Erbilgin, K.D. Klepzig, and K.F. Wallin. 2005. Interactions among conifer terpenoids and bark beetles across multiple levels of scale: An attempt to understand links between population patterns and physiological processes. *Rec. Adv. Phytochem.* 39:79-118.
2. Benjamin, R.K., M. Blackwell, I.H. Chapela, R.A. Humber, K.G. Jones, K.D. Klepzig, R.W. Lichtwardt, D. Malloch, H. Noda, R.A. Roeper, J.W. Spatafora and A. Weir. 2004. "Insect- and other arthropod-associated fungi". Pp. 395-433, *In* G.M. Mueller, G.F. Bills, and M.S. Foster, eds. *Biodiversity of fungi: Inventory and monitoring methods.* Elsevier Academic Press, Burlington, MA USA. 777 p.
3. Coulson, R.N., K.D. Klepzig, T.E. Nebeker, F.L. Oliveria, S.M. Salom, F.M. Stephen, H.J. Meyer, Eds. 2004. The research, development and applications agenda for a southern pine beetle integrated pest management program. *Proceedings of a facilitated workshop.* August, 2003. Mountain Lake, VA.

Southern State Agricultural Experiment Stations, USDA Forest Service, USDA CSREES, Southern State Forestry Agencies. 40 p.

4. Klepzig, K.D., and C.H. Walkinshaw. 2003. Cellular response of loblolly pine to wound inoculation with bark beetle-associated fungi and chitosan. USDA Forest Service, Southern Research Station, Research Paper SRS-30. 9 p.
5. Klepzig, K.D. J.C. Moser, and B.A. Fitzgibbon. 2002. The Mexican pine beetle (*Dendroctonus mexicanus*): Our "newest" invasive species. P. 50, *In* Proceedings, U.S. Department of Agriculture Interagency Research Forum on Gypsy Moth and Other Invasive Species. Jan. 2002. USDA, Forest Service, Gen. Tech. Report. NE-300. 116 p.
6. Goyer, R.A. and K.D. Klepzig. 2002. Where have all the beetles gone? *Forests and People* 52:10-12
7. Klepzig, K.D., J. Paschke, W. Nettleton, and R. Anderson. 2001. Thinning and southern pine beetle. USDA Forest Service, Forest Health Note. 2 p.
8. Klepzig, K.D., J.C. Moser, M.J. Lombardero, M.P. Ayres, R.W. Hofstetter, and C.J. Walkinshaw. 2001. Mutualism and antagonism: Ecological interactions among bark beetles, mites and fungi. Pp. 237-267 *In* Biotic interactions in plant-pathogen associations (eds. M.J. Jeger and N.J. Spence). CAB International.
9. Tiarks, A., K.D. Klepzig, F. Sanchez, M. Lih, J. Powell, and M. Buford. 1999. Roles of coarse woody debris in the loblolly pine ecosystem. Pp. 238-242 *in* Proceedings of the tenth biennial southern silvicultural research conference. USDA Forest Service. General Technical Report SRS-30.
10. Raffa, K. F. and Klepzig, K. D. 1996. "Effects of root inhabiting insect-fungal complexes on aspects of host resistance to bark beetles". *in* W. Mattson and P. Niemela, eds. *Dynamics of Herbivory: Quest for Pattern and Principle*. USDA Forest Service, General Technical Report 183. North Central Forest Experiment Station, St. Paul, Minnesota
11. Klepzig, K.D. 1994. Interactions of stress, plant chemical defenses and subcortical insect-fungal complexes in red pine decline. Ph. D. Thesis, University of Wisconsin-Madison. 246p.
12. Smalley, E.B., K.F. Raffa, R.H. Proctor and K.D. Klepzig. 1993. "Tree responses to infection by species of *Ophiostoma* and *Ceratocystis*" Pages 188-199 *in* M.J. Wingfield, K.A. Seifert and J.F. Webber, eds. *Ceratocystis and Ophiostoma : Taxonomy, Ecology and Pathology*. A.P.S. Press, St. Paul, MN.
13. Raffa, K.F. and K.D. Klepzig. 1992. "Tree defense mechanisms against fungi associated with insects" Pages 354-391 *in* R. A. Blanchette and A. R. Biggs, eds., *Defense Mechanisms of Woody Plants Against Fungi*. Springer, New York.
14. Klepzig, K.D. 1989. Association of *Leptographium* spp., insect vectors and root mortality with red pine pocket decline and mortality. M.S. Thesis, University of Wisconsin-Madison. 64p.
15. Klepzig, K.D. and J. Cummings Carlson. 1988. How to identify red pine pocket decline and mortality. USDA-Forest Service. NA-GR-19.

SELECT PRESENTATIONS

1. Klepzig, K.D., R.W. Hofstetter, M.P. Ayres and D.L. Six. 2006. Interactions of fungi and tree killing bark beetles: Geographic variation and interspecific competition. Invited presentation. International Mycological Congress. Cairns, Australia.
2. Klepzig, K.D. 2006. New perspectives on the southern pine beetle-microbial symbiosis. The Ophiostomatoid fungi: Expanding frontiers. Brisbane, Australia.

3. Bauman, T., K.D. Klepzig, and R. Rabaglia. 2006. Identification of non-native bark and ambrosia beetles in the early detection rapid response program: A cooperative research/ forest health protection effort. *Advances in Threat Assessment and Their Application to Forest and Rangeland Management*. Boulder, CO.
4. Klepzig, K.D. 2006. *Pestis symbiotica*: interactions among beetles, mites, fungi and bacteria within trees. Invited seminar, Cornell University.
5. Rauscher, H.M., J.M. Pye, C.T. Smith, K. Outcalt, D. Lee, T. Shaw, K.D. Klepzig, J.B. Jordin, and W.G. Hubbard. 2006. The Forest Encyclopedia Network: delivering scientific knowledge to forest practitioners. A Southern Region Conference on Technology Transfer and Extension in Natural Resources. Hot Springs, AR.
6. Harrison, D.D., K.D. Klepzig, and Y. Qi. 2006. Effects of methyl jasmonate on the resistance of loblolly pine to southern pine beetle. 14th Biennial Southern Silvicultural Research Conference. Athens, GA.
7. Klepzig, K.D. 2006. Mitigating the impacts of insects on forests through vegetation management: Common sense or controversial science? Invited presentation. Tree Protection Cooperative Program Meeting. University of Pretoria, Pretoria, South Africa.
8. Vasanthakumar, A., K.D. Klepzig, I. Delalibera, P. Schloss, J. Handelsman, and K. F. Raffa. 2006. Characterization of gut bacteria of southern pine beetle and pine engraver based on molecular and culturing methods. Third Bark Beetles Genetics Work Conference, May, 2006., Asheville, NC.
9. Ott, E.P., B.T. Sullivan, K.D. Klepzig, and T.D. Schowalter. 2006. Using chemical ecology techniques to improve baits for exotic ambrosia beetles. *Advances in Threat Assessment and Their Application to Forest and Rangeland Management*. Boulder, CO.
10. Taerum, S. J., K.D. Klepzig, R.W. Hofstetter, D.L. Six, J.C. Moser, and M.P. Ayres. 2006. Interspecific interactions among symbionts associated with two populations of southern pine beetles (*Dendroctonus frontalis*) North American Forest Insect Work Conference. Asheville, NC.
11. Ott, E.P., B.T. Sullivan, K.D. Klepzig, and T.D. Schowalter. 2006. Chemical ecology of the invasive, exotic ambrosia beetle, *Xylosandrus crassiusculus* (Coleoptera: Curculionidae). North American Forest Insect Work Conference. Asheville, NC.
12. Ott, E.P., B.T. Sullivan, K.D. Klepzig, and T.D. Schowalter. 2006. Fungal Interactions of the Exotic Ambrosia Beetle, *Xylosandrus crassiusculus* (Coleoptera: Curculionidae). North American Forest Insect Work Conference. Asheville, NC.
13. Pechanova, O., T.E. Nebeker, K.D. Klepzig and C. Yuceer. 2006. Proteomics approach for identifying molecular targets in the southern pine beetle mycangial glands. North American Forest Insect Work Conference. Asheville, NC.
14. Klepzig, K.D., Y.M. Kang and C. Yuceer. 2006. Proteomic and microscopic examination of the southern pine beetle-fungus symbiosis. North American Forest Insect Work Conference. Asheville, NC.
15. Kang, Y-M, C. Yuceer, K.D. Klepzig. 2006. Development of a submerged culture system for mapping the proteome of *Entomocorticium sp. A*, a mutualistic fungal associate of the southern pine beetle. North American Forest Insect Work Conference. Asheville, NC.
16. Ott, E.P., B.T. Sullivan, K.D. Klepzig, and T.D. Schowalter. 2006. Chemical ecology, fungal interactions, and forest stand correlations of the exotic ambrosia beetle, *Xylosandrus crassiusculus*. 17th USDA Interagency Research Forum on Gypsy Moth and Other Invasive Species. Annapolis, MD.
17. Klepzig, K.D. 2005. *Pestis symbiotica*: interactions among beetles, mites, fungi and bacteria within trees. Invited seminar, University of Missouri.

18. Cardoza, Y.J., K.D. Klepzig, and K.F. Raffa. 2005. Endophytic insect deploys bacteria in oral secretions to defend against gallery-invading fungi. Entomological Society of America Annual Meeting, Ft. Lauderdale, FL.
19. Ferro, M., C. Carlton, and K.D. Klepzig. 2005. Effect of loblolly pine coarse woody debris on coleoptera species richness. Entomological Society of America Annual Meeting. Ft. Lauderdale, FL.
20. Klepzig, K.D., D.L. Six, R.W. Hofstetter, and M.J. Wingfield. 2005. New fungi from an old beetle in Mexico. Southern Forest Insect Work Conference. Austin, TX.
21. Cardoza, Y.J., K.F. Raffa, K.D. Klepzig, C. Currie, and A. Vasanthakumar. 2005. Beetle-fungal-bacterial interactions. Southern Forest Insect Work Conference. Austin, TX.
22. Zhou, X., Z.W. de Beer, K.D. Klepzig, and M.J. Wingfield. 2005. Morphologically similar *Ophiostoma* spp. associated with *Ips calligraphus* (Coleoptera: Scolytinae) from Mexico and the USA. Congresses of the Entomological and Zoological Societies of southern Africa. Grahamstown, South Africa.
23. Klepzig, K.D., D.J. Robison, G. Fowler, P.R. Minchin, F.P. Hain, and H.L. Allen. 2005. Aspects of elicited responses of pines to bark beetles and their associated fungi. South African Society of Plant Pathology Annual Meeting. George, South Africa.
24. Klepzig, K.D. 2004. "Red in tooth and claw": Symbiosis in plant pestilence." Invited Seminar, Department of Entomology, Louisiana State University, Baton Rouge, LA.
25. Coulson, R., F. Stephen, K. Klepzig, F. Oliveria. 2004. The southern pine beetle integrated pest management program: A coalition response to the Healthy Forests Restoration Act. Partnering for Healthy Forests Conference, Little Rock, AR. Invited presentation.
26. Klepzig K.D., J.B. Mahfouz, R.W. Hofstetter, and M.P. Ayres. 2004. Symbiotic secrets: Reciprocity and antagonism in bark beetle-fungal interactions. International Congress of Entomology, Brisbane, Australia.
27. Ayres, M.P., R.W. Hofstetter, M.J. Lombardero, K.D. Klepzig, and J.C. Moser. 2004. When isms collide: Mutualisms, commensalisms and antagonisms among plant enemies. Gordon Research Conference on Plant-Herbivore Interactions. Ventura, CA.
28. Waldron, J., R. Coulson, M. Tchakerian, C. Lafon, D. Cairns, & K. Klepzig. 2004. Modeling Forest Restoration in the Southern Appalachians Following Disturbance by the Southern Pine Beetle. 19th Annual Symposium of the United States Regional Association of the International Association for Landscape Ecology, Las Vegas, Nevada, March30-April 4, 2004.
29. Klepzig, K.D., I. Delalibera, B.J. Kopper, and K.F. Raffa. 2003. Reciprocity in bark beetle-microbial interactions. IUFRO Working Party on Bark Beetles – "Bark beetle biology and management: From the 1960's to the 21st Century". Blodgett Forest, CA.
30. K.D. Klepzig, and D.L. Six. 2003. Bark beetle fungal symbiosis: Context dependency in complex interactions. Fourth International Congress of Symbiosis, International Symbiosis Society Meeting, Halifax, Canada.
31. Klepzig, K.D., R.W. Hofstetter, M.P. Ayres, B.J. Kopper, and K.F. Raffa. 2003. Net effects: Fungus-insect, fungus-host and fungus-fungus interactions. Southern Forest Insect Work Conference. New Orleans, LA.
32. Klepzig, K.D. 2003. Bark beetles, from plantations to single trees: A USA perspective. Twelfth annual Tree Protection Cooperative Program meeting, Forestry Agricultural and Biotechnology Institute, University of Pretoria, Pretoria, South Africa.

33. K.D. Klepzig, R.W. Hofstetter, M.P. Ayres, and J.C. Moser. 2002. Biology and ecology of southern mycangial beetles and their fungi. Entomological Society of American Annual Meeting, Ft. Lauderdale, FL.
34. R.W. Hofstetter, J.C. Moser, K.D. Klepzig, and B. Fitzgibbon. 2002. The role of fungal-mite interactions in outbreak dynamics of *Dendroctonus mexicanus* and *D. frontalis*. Entomological Society of American Annual Meeting, Ft. Lauderdale, FL.
35. Klepzig, K.D., R.W. Hofstetter, M.P. Ayres, and J.C. Moser. 2002. Mutualism and antagonism in bark beetle-fungus-mite interactions. International Mycological Congress 7. Oslo, Norway.
36. Klepzig, K.D. D. Robison, F. Hain, L. Allen, G. Fowler. 2002. Induced response of loblolly pine to mass inoculation with bark beetle associated fungus. IUFRO Working Party – Tree Resistance to Insects. Flagstaff, AZ.
37. Klepzig, K.D. 2002. Southern Pine Beetle: Problems and solutions. Tennessee Urban Forestry Council, Knoxville, TN. International Society of Arboriculture, Southern Chapter, Memphis, TN.
38. Klepzig, K.D, G. Fowler, D.J. Robison, L. Allen and F. Hain. 2001. "Induced responses of intensively managed loblolly pine to mass inoculation." North American Forest Insect Work Conference, Edmonton, Alberta, Canada.
39. Hofstetter, R.W., K.D. Klepzig, M.P. Ayres, and J.C. Moser. 2000. "Fungus-mite associations and the ecology of southern pine beetle." Joint Annual Meeting - Entomological Society of America/ Canadian Entomological Society. Montreal, Quebec, Canada.
40. Klepzig, K.D., and Z.H. Ning. 2000. "Effects of atmospheric pollutants on susceptibility of loblolly pine to saprogenic fungi." Southern Forest Insect Work Conference, Memphis, TN
41. Klepzig, K.D., J.C. Moser, F.J. Lombardero, R.W. Hofstetter, and M.P. Ayres. 2000. "Symbiosis and competition: Complex interactions among beetles, fungi and mites." Third International Conference on Symbiosis. Marburg, Germany.
42. Klepzig, K.D., and J. Meeker. 2000. Invasive insects: Threats to forest sustainability, opportunities for forest protection." Fragmentation 2000, Annapolis, MD.
43. Klepzig, K.D. 2000. "From Casual to Codependent: Insect-Fungal Interactions". Invited Seminar, Department of Biological Sciences, Dartmouth College, Hanover, NH.
44. Klepzig, K.D. 1999. "Mutualism and antagonism: Ecological interactions among bark beetles, mites and fungi." British Society of Plant Pathology- Biotic Interactions in Plant Pathogen Associations, Oxford, UK.
45. Klepzig, K.D., M. Lombardero, J.C. Moser, and M. Ayres. 1999. "Complexity among complexes: bark beetles, mites and fungi in southern pines". Western Forest Insect Work Conference, Breckenridge, CO
46. Klepzig, K.D. 1999. "Multiple roles for wood colonizing fungi in arthropod life histories". Invited Seminar, Department of Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA.
47. Klepzig, K.D. 1999. "Bark beetles as indicators of, and factors in, forest health". Invited Seminar. North Carolina State University, Raleigh, NC.
48. Klepzig, K.D. 1998. "Symbiosis and antagonism: Complex interactions among bark beetles, fungi and mites". Invited Seminar. University of Georgia, Athens, GA, and Virginia Tech, Blacksburg, VA.

49. Klepzig, K.D. 1998. "Insects and fungi on the attack". in "Introduction to plant pathology: a learning partnership for teachers and students". American Phytopathological Society / Entomological Society of America Joint Meeting. Las Vegas, NV
50. Klepzig, K.D. 1998. "Bark beetle-fungal interactions at the organismal level". American Phytopathological Society / Entomological Society of America Joint Meeting. Las Vegas, NV

GRANTS/AWARDS RECEIVED

\$300,000	2004	USDA CSREES NRI Grant
\$327,933	2003	National Science Foundation Grant
\$210,000	2003	USDA CSREES NRI Grant
\$6,000	2000	Mauget Inc. Competitive Research Grant
\$50,000	1999	USDA Forest Service FHTET Competitive Grant
\$4,000	1999	Mauget Inc. Competitive Research Grant
\$20,000	1998	USDA Forest Service Challenge Cost Share Grant
\$16,000	1997	USDA Forest Service Internat. Forestry Competitive Grant
\$22,000	1997	USDA Forest Service BCUCP Competitive Grant
\$55,000	1997	USDA Forest Service Forest Health Competitive Grant
\$22,000	1996	USDA Forest Service BCUCP Competitive Grant
\$2,000	1991	O.N. Allen Graduate Fellowship
\$85,000	1990	USDA - Competitive Grant
\$350	1988	Sigma Xi - Grant in Aid of Research

TEACHING EXPERIENCE

Assistant Professor (2002)	Insect Symbiology
Guest Lecturer (1999)	Urban Forest Ecophysiology
Guest Lecturer (1997-present)	Forest Insects and Diseases
Guest Lecturer (1996-97)	Plant Health Care 371
Assistant Professor (1994 -95)	Plant Pathology 307, Plant Health Care 371
Associate Lecturer (1993-94)	Plants, Parasites and People 123, Introduction to Plant Pathology 300, Ways of Knowing Biology 150
Teaching Assistant (1990-91)	Plant Pathogenic Fungi 620, Insects and Diseases in Forest Resource Management 500

INTERNATIONAL EXPERIENCE

Collaborative Research (2003 - present)	Forestry Agricultural and Biotechnology Institute, University of Pretoria Pretoria, South Africa
Collaborative Research (1998 - present)	El Colegio de la Frontera Sur, Chiapas, Mexico
Collaborative Research (June, 1996)	Department of Plant Protection Sciences, Division of Chemical Ecology, Swedish University of Agriculture at Alnarp, Sweden

SERVICE ACTIVITIES

2005-2006	Program Chair, North American Forest Insect Work Conference
2002-present	City of Pineville Tree Board
2001 - 2004	Southern Research Station, Director's Award Committee
1996-2003	Visiting Scientist - Phoenix Magnet Elementary School
1999	Program Chair, Southern Forest Insect Work Conference
1996-2001	Unit Representative - W187 Regional Working Group
1994-95	Plant and Soil Sciences Curriculum Committee
1993-94	Plant Pathology Academic Affairs Committee
1991-93	Plant Pathology Curriculum Committee
1991-92	Co-president Plant Pathology Graduate Council
1990-91	Entomology Academic Affairs Committee
	President - Entomology Graduate Student Association
1987-93	University Representative - W110 Regional Working Group

MEMBERSHIPS

American Phytopathological Society	Mycological Society of America
Entomological Society of America	Sigma Xi
International Symbiosis Society	