CURRICULUM VITAE
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EDUCATION:
Ph.D. 1976, Mississippi State University.
M.S. 1973, Mississippi State University.
B.S. 1971, Southwestern Oklahoma State University.

EMPLOYMENT:
1996-Present: Professor, Department of Entomology, Kansas State University
1990-96: Professor and Head, Department of Entomology, Kansas State University.
1988-90: Entomology Division Chair, Dept. Plant, Soil & Entomological Sciences, University of Idaho.
1978-88: Professor, Dept. of Entomology, Louisiana State University.
1976-78: Postdoctoral Research Associate, Dept. of Entomology, North Carolina State University
1972-76: Graduate Research Associate, Dept. of Entomology, Mississippi State University
1971-72: Active duty, U.S. Army Reserve; Ready Reserve 1972-1978.
1967-71: General Laboratory Assistant, Biology Department, Southwestern Oklahoma State University

RECOGNITION:
2010 Recognition Award, Entomological Society of America.
2009 Recognition Award, North Central Branch, Entomological Society of America.
2009 Kansas State University Gamma Sigma Delta Distinguished Faculty Award.
2007 President, Kansas State University Chapter, Sigma Xi.
2006 Founding Editor, *Arthropod-Plant Interactions*, Springer.
2006 Fellow, Entomological Society of America.
2005 Editorial Board, *Biopesticides International,* Koul Research Foundation.
2004 E. Walter Morrison Award, Kansas State University Foundation.
2004 Subject Editor, *Journal of Economic Entomology,* Entomological Society of America.
2003 External Examiner, Dissertation Assessment Panel, The Royal Veterinary and Agricultural University (KVL), Copenhagen Denmark.
2002 Fulbright Scholar, Czech Agricultural University, William J. Fulbright Commission, Research Council for International Exchange of Scholars.
2000 President, Kansas State University Eta Chapter, Gamma Sigma Delta.
1999 Graduate Faculty Fellow, University of Nebraska.
1999 MIAC Mexico Faculty Development Program.
1999 Research and Study leave, Research Institute of Crop Production, Prague, Czech Republic.
1997 Sabbatical leave, Kansas State University Wheat Genetic Resources Center.
1982 Participant, ADAB/FAO Monitoring of Progress Mission on the Integrated Pest Control Project for Rice in South and Southeast Asia.

PUBLICATIONS
Books:
1. Smith, C. M. 2005. *Plant Resistance to Arthropods – Molecular and Conventional Approaches.* Springer, The Netherlands. 423 pp.
2. Smith, C. M., Z. R. Khan and M. D. Pathak. 1994. *Techniques for Evaluating Insect Resistance in Crop Plants.* CRC Press, Boca Raton, FL. 320 pp.
3. Smith, C. M. 1989. *Plant Resistance to Insects - A Fundamental Approach.* John Wiley & Sons, NY. 286 pp. (Translated to Chinese by the Chinese Agricultural Science & Technology Press. 1992, and to Farsi by G. N. Ganbalani, M. Hosseini, and F. Yaghmaee, 1995).

Book Chapters:
1. Smith CM. Clement SL. 2012. Molecular Bases of Plant Resistance to Arthropods. *Annu. Rev. Entomol*. 57:309-328. **Impact factor 12.18, cited half-life of >10 years.**
2. Smith, C. M. 2010. Biochemical Plant Defenses Against Herbivores: *From Poisons To Spices.* Pp. 1-

20. In Dubinsky, Z. and Seckbach, J. (eds.) All Flesh is Grass: Plant-Animal Interactions. "Cellular Origins, Life in Extreme Habitats and Astrobiology" (COLE) Book Series, Springer, Berlin. Vol 13: *Red Algae in the Genomic Age.* Springer, New York.
3. Smith, C. M. 2009. Advances in Breeding for Host Plant Resistance. pp. 235-246, In: *Integrated Pest Management*, eds. E. B. Radcliffe, W. D. Hutchison and R. F. Cancelado. Cambridge University Press.
4. Dhillon, M. K., H. C. Sharma, and C.M. Smith. 2008. Implications of cytoplasmic male-sterility systems for development and deployment of pest resistant hybrids in cereals. CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources. 3(068). http://www.cababstractsplus.org/cabreviews.
5. Smith, C. M. 2007. Plant Resistance to Insect and Mites. pp. 17-18, In: Buntin, D. G., Weiss, M., Pike, K. D., and Webster, J. A. (Eds.). *ESA Handbook of Small Grain Insects.* Entomological Society of America, Lanham, MD.
6. Smith, C. M. 2004. Plant Resistance Against Pests: Issues and Strategies, pp. 147-167. In: Koul, O., Dhaliwal, G. S., and Cuperus, G. (Eds.), *Integrated Pest Management: Potential, Constraints And Challenges.* CABI Publ., Oxon, UK.
7. Smith, C. M. 2004. Host Plant Resistance in Crop Plants. pp. 605-608. In: Goodman, R. M., (Ed.), *The Encyclopedia of Plant and Crop Science*. Marcel Decker, New York.
8. Dhaliwal, G. S. , V. K. Dilwari, and C. M. Smith. 1999. Host Plant Defense Against Insects. pp. 172-210. In: Dhaliwal, G. S., and Arora, R. (Eds.). *Environmental Stress in Crop Plants.* Commonwealth Publishers, New Delhi.
9. Smith, C. M., S. S. Quisenberry and F. du Toit. 1999. The Value of Conserved Wheat Germplasm Possessing Arthropod Resistance. pp. 25 – 49. In: Clement, S. L. and Quisenberry, S. S. (Eds.) *Global Plant Genetic Resources for Insect Resistant Crops*. CRC Press, Boca Raton, Florida.
10. Smith, C. M. 1999. Plant Resistance to Insects. pp. 171-205. In: Rechcigl, J. and Rechcigl, N. (Eds.) *Biological and Biotechnological Control of Insects.* Lewis, Boca Raton, FL.
11. Smith, C. M. 1998. Global Aspects of Insect Resistant Crop Plants. pp. 37-52. In: Dhaliwal, G. S., Arora, R., Randhawa, N. S., and Dhawan, A. K. (Eds.). *Integrated Pest Management : An Ecological Perspective of Plant - Insect Interactions*, *Ecological Agriculture and Sustainable Development.* Vol. 2. Indian Ecological Society, Punjab Agricultural University Ludhiana and Centre for Research in Rural and Industrial Development, Chandigarh.
12. Smith, C. M. 1997. An Overview of the Mechanisms and Bases of Resistance in Maize. pp. 1-12. In: *Insect Resistant Maize: Recent Advances and Utilization,* Mihm, J. A., Ed. Proceedings of an International Symposium, International Maize and Wheat Improvement Center (CIMMYT), Mexico, D. F., 1994, CIMMYT, El Batan,Mexico.
13. Smith, C. M. 1994. Integration of rice insect control strategies and tactics. pp. 681-692. In: *Biology and Management of Rice Insects.* E. A. Heinrichs (Ed.) John Wiley & Sons, New York.
14. Smith, C. M. and S. S. Quisenberry (Eds.). 1994. The Value and Use of Plant Resistance to Insects in Integrated Crop Management. *J. Agric. Entomol*. Vol. 11(3): entire issue, 250pp.
15. Smith, C. M., Z. R. Khan and P. Caballero. 1991. Techniques and Methods to Evaluate the Chemical Bases of Insect Resistance in the Rice Plant. pp. 235-274. In: *Rice Insects Management Strategies.* Heinrichs, E. A. and Miller, T. A. (Eds.) Springer-Verlag, New York.
16. Smith, C. M. 1988. Effects of Mechanical Damage to Plants on Insect Populations. pp. 321-340. In: Heinrichs, E. A. (Ed.) *Plant Stress-Insect Interactions*. John Wiley & Sons, New York.
17. Smith, C. M. 1983. The Rice Water Weevil, *Lissorhoptrus oryzophilus* Kuschel. pp. 21-28. In: Singh, K. G. (Ed.*) Exotic Plant Quarantine Pests and Procedures for Introduction of Plant Materials.* ASEAN (PLANTI). Selangor, Malaysia.

Refereed Journal Manuscripts:

1. Garcés Carrera S, Davis H, Aguirre-Rojas L, Murugan M, Smith M. 2012. Multiple categories of resistance to wheat curl mite expressed in *Aegilops* species accessions. *J. Econ. Entomol.* (*In Press*).
2. Miller AD, Skoracka A, Navia D, Santos de Mendonca R, Szydlo W, Smith CM, , Schultz MB, Denizhan E, Hoffmann AA. 2012. Molecular markers reveal extensive cryptic speciation and host specialization in an economically important mite taxon. *Molecular Phylogenetics and Evolution*. (*In Press)*. http://dx.doi.org/10.1016/j.ympev.2012.11.021. **Impact factor 3.9**.

3. Niide T, Higgins RA, Whitworth RJ, Schapaugh WT, Smith CM, Buschman LL. 2012. Antibiosis resistance in soybean plant introductions to *Dectes texanus*. *J. Econ. Entomol.* 105:598-607.
4. Cui F, Smith CM, Reese J, Edwards O, Gerald Reeck. 2012. Polymorphisms in salivary-gland transcripts of Russian wheat aphid biotypes 1 and 2. *Insect Science*. 19:429–440.
5. Murugan M, Smith CM. 2012. Barley tolerance of Russian wheat aphid biotype 2 herbivory involves expression of defense response and developmental genes. *Plant Signaling and Behavior*. 7:382-391. **Impact factor 6.64**.
6. El Bouhssini M, Ogbonnaya FC, Ketata H, Mosaad MM, Street K, Amri A, Keser M, Rajaram S, Morgounov A, Rihawi F, Dabus A, Smith CM. 2011. Progress in host plant resistance in wheat to Russian wheat aphid in North Africa and West Asia. *Australian J. Crop Science.* 5:1108-1113.
7. Murugan, M, Sotelo PA, Duraimurugan P, Whitfield AE, Schneweis D, Starkey S, Smith CM. 2011. Wheat curl mite resistance: Interactions of mite feeding with wheat streak mosaic virus infection *J. Econ. Entomol.* 104:1406-1414.
8. Liu, X., J. Meng, S. Starkey, and C. M. Smith. 2011. Wheat gene expression is differentially affected by a virulent Russian wheat aphid biotype. *J. Chem. Ecol*. 37: 472-482. **Impact factor 2.7.**
9. Murugan, M., S. A. Khan, P. Sotelo Cardona, G. Vargas Orozco, P. Viswanathan, J. Reese, S. Starkey, and C. M. Smith. 2010. Variation of resistance in barley against biotypes 1 and 2 of the Russian wheat aphid *J. Econ. Entomol.* 103: 938-948.
10. Liu, X., J. L. Marshall, P. Stary, O. Edwards, G. Puterka, L. Dolatti, M. E. Bouhssini, J. Malinga, and C. M. Smith. 2010. Global phylogenetics of an invasive aphid species: Evidence for multiple invasions into North America. *J. Econ. Entomol.* 103: 958-965.
11. Smith, C. M., X. M. Liu, L. J. Wang, X. Liu, M. S. Chen, S. Starkey and J. Bai. 2010. Aphid feeding activates expression of a transcriptome of oxylipin-based defense signals in wheat involved in resistance to herbivor*y. J. Chem. Ecol.* 36: 260-276. **Impact factor 2.7.**
12. Khan, S. A., M. Murugan, S. Starkey, A. Manley, and C. M. Smith. 2009. Inheritance and categories of resistance in wheat to Russian wheat aphid biotype 1 and biotype 2. *J. Econ. Entomol.* 102:1654-1662.
13. Lazzari, S., S. Starkey, J. Reese, A. Ray-Chandler, and C. M. Smith. 2009. Feeding behavior of Russian wheat aphid biotype 2 in response to wheat genotypes exhibiting antibiosis and tolerance. *J. Econ. Entomol.* 102:1291-1300.
14. Sotelo, P., S. Starkey, P. Voothuluru, G. Wilde, and C. M. Smith. 2009. Resistance to Russian wheat aphid biotype 2 in CIMMYT synthetic hexaploid wheat lines. *J. Econ. Entomol.* 102: 1255-1261.
15. Enali, S., R. Anathakrishnan, T. Niide, L. Starkus, S. Starkey, and C. M. Smith. 2009. Comparisons of wheat and barley resistance to Russian wheat aphid biotype 2. *Arthropod- Plant. Interact.* 3:45-53.
16. Saker, M. M., S. Adawy, and C. M. Smith. 2008. Entomological and genetic variation of cultivated barley (*Hordeum vulgare*) from Egypt. *GAPP Arch. Phytopathol. Plant Protect.* 41: 526-536.
17. Prabhakar, S., M.-S. Chen**,** E. N. Elpidin**a,** K. S. Vinokurov, C. M. Smith, J. Marshall, and B. Oppert. 2007. Transcriptome analysis of digestive proteases from the yellow mealworm, *Tenebrio molitor* L. *Insect Mol. Biol.* 16: 455–468.
18. Smith, C.M., and E. V. Boyko. 2007. Mini Review: The molecular bases of plant resistance and defense responses to aphid feeding: current status. *Entomol. Exp. Appl*. 122: 1-16.
19. Voothuluru, P., J. Meng, C. Khajuria, J. Louis, L. Zhu, S. Starkey, G. E. Wilde, C. A. Baker and C. M. Smith. 2006. Categories and inheritance of resistance to Russian wheat aphid (Homoptera: Aphididae) Biotype 2 in a selection from wheat cereal introduction 2401. *J. Econ. Entomol.* 99: 1854-1861.
20. Boyko, E. V., C. M. Smith, T. Vankatappa, J. Bruno, Y. Deng, S. R. Starkey, and D. Klaahsen. 2006. The molecular basis of plant gene expression during aphid invasion: wheat *Pto*- and *Pti*-like sequences modulate aphid-wheat interaction. *J. Econ. Entomol.* 99:1430-1445.
21. Tolmay, V., F. du Toit, and C. M. Smith. 2006. Registration of Russian wheat aphid resistant near isogenic lines developed in South Africa. *Crop Sci.* 46:478-480. **Impact factor 2.4.**
22. Boina, D., S. Prabhakar. C. M. Smith, S. Starkey, L. Zhu, E. Boyko, and J. C. Reese. 2005. Categories of resistance to greenbug (Homoptera: Aphididae) biotype I in wheats expressing the *Gby* and *Gbz* genes. *J. Kansas Entomol. Soc.* 78: 252-260.
23. Liu, X. M., C. M. Smith and B. S. Gill. 2005. Allelic relationships among Russian wheat aphid resistance genes. *Crop Sci*. 45:2273-2280. **Impact factor 2.4.**

24. Nagaraj, N., J. C. Reese, M. R. Tuinstra. C. M. Smith, P. St. Amand, M. B. Kirkham, K. D. Kofoid, L. R. Campbell, and G. E. Wilde. 2005. Molecular mapping of sorghum genes expressing tolerance to damage by greenbug (Homoptera: Aphididae). *J. Econ. Entomol.* 98: 595-602.
25. Smith, C. M., E. Boyko, and S. Starkey. 2005. Differential expression of genes in wheat, *Tritiucum aestivum* L. controlling resistance to the Russian wheat aphid, *Diuraphis noxia* (Mordvilko). *IOBC wprs Bull*. 28:11-20.
26. Zhu, L. C., C. M. Smith, A. Fritz, E. V. Boyko, and B. S. Gill. 2005. Inheritance and molecular mapping of new greenbug resistance genes in wheat germplasms derived from *Aegilops tauschii*. *Theor. Appl. Genet*. 111: 831-837. **Impact factor 3.8.**
27. Zhu, L. C., C. M. Smith, and J. C. Reese. 2005. Categories of resistance to greenbug (Homoptera: Aphididae) biotype K in wheat lines containing *Aegilops tauschii* genes. *J. Econ. Entomol.* 98:2260-2265.
28. Boyko, E. V., S. R. Starkey, and C. M. Smith. 2004. Genetic mapping of genes expressing resistance to greenbug and Russian wheat aphid in bread wheat. *Theor. Appl. Genet*. 109:1230-1236. **Impact factor 3.8.**
29. Smith, C. M., T. Belay, C. Stauffer, P. Stary, I. Kubeckova, and S. Starkey. 2004. Identification of Russian wheat aphid (Homoptera: Aphididae) biotypes virulent to the *Dn4* resistance gene. *J. Econ. Entomol.* 97:1112 - 1117.
30. Smith, C. M., H. Havlickova, S. Starkey, B. S. Gill, and V. Holubec. 2004. Identification of *Aegilops* germplasm with multiple aphid resistance. *Euphytica*. 135:265-273.
31. Zhu, L., C. M. Smith, E. V. Boyko, A. Fritz, and M.B. Flinn. 2004. Genetic analysis and molecular mapping of a wheat gene conferring tolerance to the greenbug (*Schizaphis graminum* Rondani). *Theor. Appl. Genet*. 109: 289-293. **Impact factor 3.8.**
32. Smith, C. M. and S. Starkey. 2003. Resistance to greenbug (Heteroptera: Aphididae) biotype I in *Aegilops tauschii* synthetic wheats. *J. Econ. Entomol.* 96:1571-1576.
33. Belay, T., C. M. Smith and C. Stauffer. 2003. Biotypic status of the Russian wheat aphid *Diuraphis noxia* in Ethiopia. *Mitt. Dtsch. Ges. Allg. Angew. Ent.* (Proc. German Entomol. Congress). 15:1-4.
34. Malik, R., C. M. Smith, T. L. Harvey and G. L. Brown Guedira. 2003. Assessment of *Aegilops tauschii* for resistance to diverse strains of wheat curl mite. *J. Econ. Entomol.* 96:1329-1333.
35. Malik, R., C. M. Smith, T. L. Harvey and G. L. Brown Guedira. 2003. Genetic mapping of wheat curl mite resistance genes *Cmc3* and *Cmc4* in common wheat. *Crop Sci*. 43:644-650. **Impact factor 2.4.**
36. Liu, X. M., C. M. Smith, and B. S. Gill. 2002. Mapping of microsatellite markers linked to the *Dn4* and *Dn6* genes expressing Russian wheat aphid resistance in wheat. *Theor. Appl. Genet*. 104:1042-1048. **Impact factor 3.8.**
37. Liu, X., C. M. Smith, B. S. Gill, and V. Tolmay. 2001. Microsatellite markers linked to six Russian wheat aphid resistance genes in wheat. *Theor. Appl. Genet.* 102:504-510. **Impact factor 3.8.**
38. Srinivas, P., S. D. Danielson, C. M. Smith and J. D. Foster. 2001. Cross-resistance and resistance longevity as induced by bean leaf beetle, *Cerotoma trifurcata* and soybean looper, *Pseudoplusia includens* herbivory on soybean. *J. Insect Science*, 1.5.
39. Flinn, M. F., C. M. Smith, J. C. Reese and B. S. Gill. 2001. Categories of resistance to greenbug (Homoptera: Aphididae) biotype I in *Aegilops tauschii* germplasm. *J. Econ. Entomol.* 94: 558-563.
40. Oppert, B., K. Hartzer, and C. M. Smith. 2000. Digestive proteinases of alfalfa weevil, *Hypera postica,* (Gyllenhal) (Coleoptera: Curuclionidae). *Trans. Kansas Acad. Sci.* 103:99-110.
41. Souza, E., J. M. Windes, S. S. Quisenberry, D. J. Schotzko, P. F. Lamb, S. Halbert, R. S. Zemetra and C. M. Smith. 1997. Registration of IDAHO 472 wheat germplasm. *Crop Sci.* 37:1032.
42. Souza, E., J. M. Windes, S. S. Quisenberry, D. J. Schotzko, P. F. Lamb, S. Halbert, R. S. Zemetra and C. M. Smith. 1997. Registration of IDAHO 471A and IDAHO 472B wheat germplasm. *Crop Sci.* 37:1031.
43. Schroederteeter, S., R. S. Zemetra, D. J. Schotzko, C. M. Smith and M. Rafi. 1994. Monosomic analysis of Russian wheat aphid (*Diuraphis noxia*) resistance in *Triticum aestivum* line PI137739. *Euphytica* 74:117-120.
44. Zemetra, R. S., D. J. Schotzko, C. M. Smith and M. Lauver. 1993. In vitro selection for Russian wheat aphid (*Diuraphis noxia*) resistance in wheat (*Triticum aestivum*). *Plant Cell Reports* 12:312-315.

45. Smith, C. M., D. J. Schotzko, R. S. Zemetra and E. J. Souza. 1992. Categories of resistance in wheat plant introductions resistant to the Russian wheat aphid (Homoptera: Aphididae). *J. Econ. Entomol*. 85:1480-1484.
46. Schotzko, D. J. and C. M. Smith. 1991. Effects of preconditioning host plants on population development of Russian wheat aphids (Homoptera:Aphididae). *J. Econ. Entomol* 84:1083-1087.
47. Schotzko, D. J. and C. M. Smith. 1991. Effects of host plants on the between-plant spatial distribution of the Russian wheat aphid (Homoptera:Aphididae). *J. Econ. Entomol*. 84:1725-1734.
48. Smith, C. M., D. Schotzko, R. S. Zemetra, E. J. Souza and S. Schroeder- Teeter. 1991. Identification of Russian wheat aphid (Homoptera: Aphididae) resistance in wheat. *J. Econ. Entomol*. 84:328-332.
49. Souza, E., C. M. Smith, D. J. Schotzko and R. S. Zemetra. 1991. Greenhouse evaluation of red wheats for resistance to the Russian wheat aphid (*Diuraphis noxia*, Mordvilko). *Euphytica* 57:221-225.
50. Smith, C. M. 1990. Adaptation of new technologies to the study of plant resistance to insects. *Bull. Entomol. Soc. Am.* 35:141-146.
51. Hernandez, H. P., T.C.Y. Hsieh, C. M. Smith and N. H. Fischer. 1989. Foliage volatiles of two rice cultivars. *Phytochem.* 28:2959-2962.
52. Rose, R. L., T. C. Sparks and C. M. Smith. 1989. The influence of resistant soybean (PI227687) foliage and coumestrol on the metabolism of xenobiotics by the soybean looper, *Pseudoplusia includens* (Walker*). Pestic. Biochem. Physiol*. 34:17-26.
53. Cook, C. A. and C. M. Smith. 1988. Resistant plants as an alternative to chemical control of insects: Pitfalls to progress. *Florida Entomol.* 71:546- 553.
54. Lye, B. H. and C. M. Smith. 1988. Evaluation of rice cultivars for antibiosis and tolerance resistance to fall armyworm (Lepidoptera: Noctuidae). *Fla. Entomol*. 71:254-261.
55. Quisenberry, S. S., P. Caballero and C. M. Smith. 1988. Influence of bermudagrass leaf extracts on development and survivorship of fall armyworm (Lepidoptera: Noctuidae) larvae. *J. Econ. Entomol*. 81:910- 913.
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57. Hollay, M. E., C. M. Smith and J. F. Robinson. 1987. Structure and formation of feeding sheaths of the rice stink bug (Hemiptera: Pentatomidae) on rice grains and their association with fungi. *Ann. Entomol. Soc. Am.* 80:212-216.
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92. Smith, C. M., H. N. Pitre and W. E. Knight. 1975. Development of a method for evaluation of crimson clover seed damage by the clover head weevil. *Florida Entomol.* 58:113-116.

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Extension Publications

Sloderbeck, P. E., J. C. Reese, R. J. Whitworth, C. M. Smith, R. A. Higgins, W. T. Schapaugh, R. E. Wolf, and D. J. Jardine 2003. The soybean aphid: A new pest in Kansas soybeans. Kansas State Univ. Agric. Expt. Sta. & Coop. Extn. Serv. Publ. MF-2582. http://www.oznet.ksu.edu/library/entml2/MF2582.pdf.

Pike, K. S., D. Allison, L. K. Tanigoshi, R. F. Harwood, S. L. Clement, S. E. Halbert, C. M. Smith, J. B. Johnson, G. L. Reed, and P. K. Zwer. 1991. Russian wheat aphid-biology, damage and management. Pacific Northwest Ext. Publ. PNW371. 24 pp.

EXTRAMURAL SUPPORT: **$4,740,392 -- 1978 - present.**

Kansas State University - $4,062,446 -- 1996 - present.

C. Boyer, R. Cloyd, E. DeWolf, M. Kennelly, B. McCornack, F. Miller, J. Moyer, T.Phillips, B. Schapaugh, M. Smith, W. Upham, and J. Whitworth. Extension IPM Coordination Program for Kansas. USDA. $93,603. 2012-13.

C. M. Smith and A. Whitfield. Identification of Wheat Curl Mite and Virus-Resistant Wheat Germplasm. Kansas Wheat Commission. $35,000. 2012-13.

C. M. Smith and J. Whitworth. Aphid Vectors of Barley Yellow Dwarf Virus in Kansas Wheat. Kansas Wheat Commission. $38,814. 2012-13.

R. Madl, A. Fritz, and C. M. Smith. Induction of Wheat Antioxidants to Consistent Commercial Levels. Kansas Wheat Commission. $35,000. 2012-13.

C. M. Smith, B. McCornack, J. Whitworth and W. Schapaugh. Development of Genetic and Chemical Tactics for Management of the *Dectes* Stem Borer in Soybean. Kansas Soybean Commission. $58,854. 2012-13.

C. Boyer, R. Cloyd, E. DeWolf, M. Kennelly, B. McCornack, F. Miller, J. Moyer, T.Phillips, B. Schapaugh, M. Smith, W. Upham, and J. Whitworth. Extension IPM Coordination Program for Kansas. USDA. $93,603. 2011-12.

C. M. Smith, and A. Whitfield. Identification of Wheat Curl Mite and Virus-Resistant Wheat Germplasm. Kansas Wheat Commission. $54,000. 2011-12.

R. Madl, A. Fritz, and C. M. Smith. Induction of Wheat Antioxidants to Consistent Commercial Levels. Kansas Wheat Commission. $35,000. 2011-12.

L. L. Buschman, C. M. Smith, B. McCornack, J. Whitworth and W. Schapaugh. Development of Genetic and Chemical Tactics for Management of the *Dectes* Stem Borer in Soybean. Kansas Soybean Commission. $56,065. 2011-12.

C. M. Smith, A. Whitfield and M. Murugan. Identification of Wheat Curl Mite and Virus-Resistant Wheat Germplasm. Kansas Wheat Commission. $44,524. 2010-11.

R. Madl, A. Fritz, and C. M. Smith. Induction of Wheat Antioxidants to Consistent Commercial Levels. Kansas Wheat Commission. $35,000. 2010-11.

L. L. Buschman, C. M. Smith, B. McCornack, J. Whitworth and W. Schapaugh. Development of Genetic and Chemical Tactics for Management of the *Dectes* Stem Borer in Soybean. Kansas Soybean Commission. $33,904. 2010-11.

C. M. Smith. Online Development of ENTOM 312 General Entomology. Kansas State University. $5,079. 2010-11.

C. M. Smith and A. Whitfield. Identification of Wheat Curl Mite and Virus-Resistant Wheat Germplasm. Kansas Wheat Commission. 2009-10. $42,729.

P. E. Sloderbeck, W. Schapaugh & H. Trick. Development of Soybean Host Plant Resistance and Other Management Options for the Soybean Stem Borer. Kansas Soybean Commission. 2008-09. $35,000.

C. M. Smith. Development of ENTOM 313 General Entomology Online Digital Laboratory. Kansas State University. $7,494. December 2010-12.

C. M. Smith. A Molecular Fingerprinting Method to Detect Biotypes of the Russian Wheat Aphid. CSREES NC-IPM Minigrant. 2008-09. $10,000.

C. M. Smith, A. Whitfield, and J. Fellers. Identification of Wheat Curl Mite and Virus-Resistant Wheat Germplasm. Kansas Wheat Commission. 2008-09. $33,842.

H. Šimková, J. Doležel & C. M. Smith. Creation of resources for wheat genomics and map-based cloning of resistance genes from chromosome 7D. Czech Science Foundation. 2007-09. $2,000.

G. Wilde, M. Smith & P. Sloderbeck. Areawide Pest Management Program for Russian Wheat Aphid and Greenbug. USDA-ARS. 2006-11. $25,000.

C. M. Smith, F. B. Peairs and G. A. Hein. Improved Management of Russian Wheat Aphids in Barley by Integration of Biological and Cultural Controls with Aphid- Resistant Cultivars. USDA NRI, CSREES Crops At Risk Program. 2006-09. $433,000.

C. M. Smith and M. Saker. Mapping and Cloning of Genes Controlling Insect Resistance in Barley.U.S. Department of State/Egyptian Ministry of Scientific Research Science and Technology Program. 2006-08. $60,000.

S. Brown, M. Kanost, R. Ganta, C. M. Smith, M. S. Chen and R. Clem. Center for Genomic Studies on Arthropods Affecting Human, Animal and Plant Health. Kansas State University Targeted Excellence Program. 2006-11. $2,000,000.

R. A. Higgins, L. L. Buschman, C. M. Smith, P. E. Sloderbeck, W. T. Schapaugh and H. Trick. Development of Soybean Host Plant Resistance and Other Management Options for the Soybean Stem Borer. Kansas Soybean Commission. 2006-08. $65,000.

J. C. Reese, R. A. Higgins, C. M. Smith, W. T. Schapaugh, Jr., P. E. Sloderbeck and J. Whitworth. Integrated Pest Management of the Soybean Aphid in Kansas. Kansas Soybean Commission. 2005-08. $83,000.

R. A. Higgins, J. C. Reese, W. T. Schapaugh, Jr., C. M. Smith, and J. Whitworth. Kansas Subcontract for Soybean Aphid Management in the North Central States. North Central Soybean Research Program. 2006-08. $47,000.

C. M. Smith and A. Fritz. Fine Mapping the *Gbz* Gene on Wheat Chromosome 7D: the Next Step Toward Cloning a Greenbug Resistance Gene. Kansas Crop Improvement Association. 2006. $5,000.

C. M. Smith and E. V. Boyko. A Functional Genomic Approach to Identify Temperature Response Genes Modulating Plant Defense Responses to Arthropod Challenge. NSF-EPSCoR. 2003-2006. $166,420.

C. M. Smith and M. M. Saker. Evaluation, Molecular Analysis and Development of Molecular Markers Linked to Pest Resistance Genes in Barley Populations. U.S. Department of State/Egyptian Ministry of Scientific Research Science and Technology Program. 2003-05. $59,858.

C. M. Smith and G. Bai. An Aphid Resistance DNA Marker Selection System for Improved Kansas Wheat Variety Development. Kansas Crop Improvement Association. 2003-04. $8,000.

J. C. Reese, R. A. Higgins, C. M. Smith, W. T. Schapaugh, Jr., P. E. Sloderbeck, R. E. Wolf, and D. J. Jardine. Management of the Soybean Aphid: A Pro-Active Approach to a New Pest. Kansas Soybean Commission. 2002-04. $35,157.

C. M. Smith and L. Zhu. A cDNA-AFLP System for Improved Precision of Mapping Aphid Resistance Genes in Wheat. KSU IPM Minigrant $5,000.

C. M. Smith and E. V. Boyko. Functional Genomics of *Dn4* and *Dn6* Genes Expressing Russian Wheat Aphid resistance. KSU Plant Biotechnology Center. 2002-04. $60,000.

C. M. Smith and Elena V. Boyko. Molecular Diagnosis of Wheat Aphid Resistance. Kansas Wheat Commission. 2002. $24,683

C. M. Smith and Alan Fritz. Diagnostic Molecular Genetic Markers to Detect Multi-Gene Greenbug Resistance in Wheat. Kansas Crop Improvement Association. 2002. $5,000

C. M. Smith and E. V. Boyko. A Plant Genomics Research & Training Career Advancement Program National Science Foundation (Integrative Plant Biology). 2001. $56,640

C. M. Smith. Molecular Diagnosis of Wheat Aphid Resistance. Kansas Wheat Commission. 2001. $25,475

C. M. Smith. Diagnostic Molecular Genetic Markers to Detect Multi-Gene Greenbug Resistance in Wheat. Kansas Crop Improvement Association. 2001. $4,000

C. M. Smith and C Katsar. Diagnostic Molecular Genetic Markers to Detect Multi-Gene Greenbug Resistance in Wheat. Kansas Crop Improvement Association. 2000. $4,500

C. Michael Smith and T. Joe Martin. Evaluation of Wheat Cultivars and Advanced Generation Germplasm with DNA Markers. KSU Wheat Research Center. 2000. $9,460

K. M. El-Khatib, P. C. St. Amand, J. F. Miller and C. M. Smith. Potential for Imidazolinone-Resistance Sunflower Gene Escape and Altered Fitness of Related Wild Species. USDA Biotechnology Risk Assessment Research Grants Program. 1999. $160,000

C. M. Smith, B. S. Gill, H. Havlickova, V.Holubec, and M. Cvikova. Exchange of *Aegilops* Germplasm and Molecular Biochemical Techniques for Enhanced Aphid Resistance in Wheat. USDA, Research & Scientific Exchanges Division. February 1998, $30,000

C. M. Smith, G. Brown-Guedira, and T. Harvey. Development of Molecular Markers for *Aegilops tauschii* Resistance to Wheat Curl Mite, *Aceria tosichilla* Keifer. KSU Plant Biotechnology Center. 1998. $50,000

C. M. Smith, J. C. Reese, and G. Brown-Guedira. Wheat Tolerance to Greenbug Feeding Damage: Enhanced Search Through DNA Marker-Assisted Selection. KSU Wheat Research Center. 1998. $14,932

C. M. Smith. Evaluation of Hexaploid Wheats from the KSU Wheat Genetic Resource Center for Cereal Aphid Resistance. Kansas Crop Improvement Association. 1998. $6,000

KSU Faculty Development Grant for travel to the International Congress of Ecological Agriculture. 1997. $1,500

KSU Faculty Development Grant for travel to the XX International Congress of Entomology. 1996. $900

University of Idaho -- 101,394

C. M. Smith, P. H. Berger and T. M. Mowry. Transformation of Russet Burbank Potato for Colorado Potato Beetle Resistance Using Microprojectile Particle Acceleration. USDA/ARS Special Grants Program on Horticultural & Sugar Crops. 1990-1991. $25,110.

C. M. Smith, J. Johnson and R. S. Zemetra. An Integrated Program for Management of the Russian Wheat Aphid in the Pacific Northwest. USDA/CSRS Special Grant #89-34205-4296. 1988-1989. $31,284.

C. M. Smith and R. S. Zemetra. Development of Russian Wheat Aphid Resistance in Wheat Using Cell Culture Techniques. IMAGE Agricultural Biotechnology Grant. 1988-1990. $45,000.

Louisiana State University --$702,553

C. M. Smith, T. C. Sparks and S. A. Quisenberry. Computerized High Pressure Liquid Chromatographic Determination of Plant Allelochemicals and Insect Neurotransmitters. Louisiana Board of Regents Research and Development Program. 1988. $75,000.

N. Murai, M. C. Rush and C. M. Smith. Rice Genetic Engineering for Herbicide and Pest Resistance. Louisiana Board of Regents Research and Development Program. 1988. $96,000.

C. M. Smith. Varietal Resistance to Insect Pests of Rice in the Caribbean Basin. USDA Tropical/Subtropical Agriculture Grant no. 85- CRSR-2-2621. 1985. $95,600.

C. M. Smith and L. Ke. Elucidation of the Mitochondrial Genome and Partial Gene Structure in Flight Muscles of the Fall Armyworm, *Spodoptera frugiperda* (J. E. Smith). Louisiana State University College of Agriculture Training Grant for L. Ke. 1985. $36,160.

C. M. Smith. Selection of Insect Resistant Rice Through Cell Culture Techniques. Louisiana State University College of Agriculture. 1984. $10,000.

C. M. Smith and T. C. Sparks. Control of Pest Lepidoptera by Insecticide- Soybean Genotype Combinations. USDA/SEA Special Grant no. 83-CRSR-2-2304. 1983. $89,700.

C. M. Smith, D. F. Gilman and N. H. Fischer. The Chemical Basis of Resistance to the Soybean Looper, *Pseudoplusia includens* (Walker) in Genotypes of Soybean, Glycine max L. Merr., USDA/SEA Special Grant no. 59-2221-1-2-0150. 1981. $100,000.

J. F. Robinson and C. M. Smith. Rice Water Weevil Control. Louisiana Rice Research Board. 1981. $150,093.

Industrial Grants ~ $50,000.

INVITED PRESENTATIONS:

Kansas State University

Plant Aphid Damage Symptoms and Plant Aphid Defense Gene Expression – Making Sense of Differences in Barley & Wheat. Mike Smith. Western Educational & Regional Coordinating Committee. September 21-22, 2010, Fort Collins, CO.

Confirmation of Oxylipin-Based Defense Signals in Wheat Mediating Resistance to the Russian Wheat Aphid, *Diuraphis noxia* (Kurdjumov). C. Michael Smith, Xuming Liu, Liang J. Wang, Xiang Liu,

Ming-Shun Chen, Sharon Starkey, Ginfa Bai, and Jianye Meng, Central States Entomological Society Annual Meeting. April 25, 2008, Manhattan, KS.

Global Phylogenetics of an Invasive Aphid Species: Evidence for Multiple Invasions into North America. Xiang Liu, Jeremy Marshall, Sharon Starkey, Petr Starry, John Burd, Gary Puterka, L. Dolatti, Owain Edwards, Mustapha El Bouhssini, Joyce Malinga, Jacob Lage, and Mike Smith. Joint Meeting of Southwestern Branch Entomological Society of America and Western Educational & Regional Coordinating Committee. February 25, 2008, Stillwater, OK.

Differential Wheat Plant Gene Expression in Response to Feeding by *Diuraphis noxia* (Kurdjumov) (Homoptera: Aphididae). Michael Smith, JianFa Bai, Ming-Shun Chen, Xiang Liu, Xuming Liu, Sharon Starkey, and L. J. Wang. Columbian Entomological Society (SOCOLEN) Annual Meeting. July 17, 2008, Cali, Columbia.

Making Connections Between Traditional and New Approaches for Host Plant Resistance Research -- Finding Resistance through Susceptibility - Lessons to be Learned from Gene Expression in Susceptible Plants. C. Michael Smith. ESA National Meeting, San Diego, CA. December 9-12, 2007.

Expressions of Aphid Virulence - Physiological, Behavioral and Genetic. C. Michael Smith. KSU Ecological Genomics Research Forum, June 19, 2007.

Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. C. Michael Smith, Xuming Liu, Elena Boyko, Sharon Starkey, JianFa Bai, L. J. Wang and Ming-Shun Chen. Plant Resistance to Insects class, Dept. of Entomology, University of Nebraska, April 10, 2007.

In Search of a Garlic to Stop Aphid Vampires - - Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. KSU Dept. of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine. February 22, 2007.

Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. KSU-Netherlands Eco-Genomics Workshop Radboud University Soeterbeeck Conference Center, Ravenstein, Netherlands. September 26, 2006.

Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. Laboratory of Molecular Cytogenetics and Cytometry, Czech Institute of Experimental Botany. Olomouc, Czech Republic. September 26, 2006.

Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. KSU Ecological Genomics Workshop. Manhattan, KS. May 6, 2006.

Wheat Plant Gene Expression in Response to Russian Wheat Aphid Feeding. International Plant Resistance to Insects Workshop. Lafayette, IN. April 10, 2006.

The Fulbright Teaching Experience. Mluvim Cesky Malo: Teaching Entomology in a Language with few vowels . Thinking Outside the Borders: Entomology and the International Experience Symposium. NC Branch Entomological Society of America Meeting, Bloomington, IL, March 25-29, 2006.

Signals From the Other Side: The Molecular Basis of Wheat Gene Expression in Response to Aphid Feeding. Guest Seminar, Department of Entomology, Louisiana State University, Baton Rouge, LA, May 18, 2005.

The Molecular Bases of Plant Gene Expression in Response to Russian Wheat Aphid Feeding. 7th International Symposium on Aphids, Fremantle, Australia, October 2-7, 2005.

Dr. Frank Davis: Scientist, Teacher, Mentor, Friend. Student Symposium "The Role of Mentors in Science and Their Impact in Students". Entomological Society of America National Meeting, Fort Lauderdale, FL, December 15-18, 2005.

Gene Expression in Wheat Plants Resistant to the Russian Wheat Aphid, *Diuraphis noxia* Mordvilko. IOBC Conference on Breeding for Plant Resistance to Insects, Mites and Pathogens, Bialowieza, Poland, September 16, 2004.

Molecular Mapping of Cereal Aphid Resistance Genes in Wheat. XXII International Congress of Entomology, Brisbane, Australia. August 16, 2004.

Advances in Managing Russian Wheat Aphid (*Diuraphis noxia* Mordvilko). XXII International Congress of Entomology, Brisbane, Australia. August 16, 2004.

C. M. Smith, T. Belay, C. Stauffer and P. Stary. Identification of Russian wheat aphid biotypes virulent to resistant U. S. wheat cultivars. Presentation # 906 . Annual Meeting, Entomological Society of America, Cincinnati, OH, October 25-29, 2003.

The Fulbright Experience: Aphid-Plant Resistance Research & Teaching in the Czech Republic. KSU Department of Agronomy Seminar. Manhattan, KS, May 8, 2003.

International Research to Develop Insect Resistant Plants. KSU College of Agriculture General Agriculture 200 Introductory Class. Manhattan, KS, March 6, 2003.
Russian Wheat Aphid Resistance - Conventional & Molecular Developments, KState Research & Extension Fall Cereal Conference. Manhattan, KS, August 8, 2002.
Molecular Mapping of Cereal Aphid Resistance Genes in Wheat. Gordon Conference on Genomics and Structure/Evolutionary Bioinformatics. Mount Holyoke College, South Hadley, MA, July 31, 2002.
Molecular Markers in Wheat Linked to Genes Expressing Resistance to Aphids. Department Plant Physiology, Charles University, Praha, Czech Republic. May 14, 2002.
Application of Modern Molecular Techniques in the Study of Plant Resistance to Insects, Warsaw Agricultural University, Warsaw, Poland, April 26, 2002.
The Status of Plant Resistance Breeding to Insects in the USA. Polish National Institute of Plant Breeding. Radzikow, Poland April 25, 2002,
Molecular Markers in Wheat Linked to Genes Expressing Resistance to Aphids. Department of Entomology, University of South Bohemia, Ceske Budejovice, Czech Republic. April 18, 2002.
Molecular Markers in Wheat Linked to Genes Expressing Resistance to Aphids. Department of Experimental Zoology, Charles University, Praha, Czech Republic. April 17, 2002.
Cutting Edge Research in Insect-Host Plant Interaction (BCE Symposium). 56th Annual Meeting, North Central Branch, Entomological Society of America, Ft. Collins, CO. March 25-28, 2001.
Molecular Markers in Wheat Linked to Genes Expressing Resistance to the Greenbug and the Russian Wheat Aphid. International Maize & Wheat Improvement Center, El Battan, Mexico. April 24, 2001.
Genetically Modified Foods: A Recent Timeline. Introduction to the Symposium "Genetically Modified Foods: Current Perceptions of Safety and Acceptance. Entomological Society of America, North Central Branch Annual Meeting. March 27, 2000, Minneapolis, MN. Can be viewed and heard at http://www.oznet.ksu.edu/biotech.
Conversion of General Entomology ENTOM312 to a PowerPoint, Web-Based Course: Successes, Failures, and Lessons Learned. KSU College of Agriculture Workshop on Enhancing Teaching Effectiveness. May 18, 2000.
Molecular Selection Techniques for the Development of Arthropod Resistant Cereal Cultivars. XXI International Congress of Entomology, Foz de Iguassu, Brazil. August 22,2000.
Molecular Markers for Aphid Resistance in Wheat: Recent Developments. 2000 Greenbug Research Consortium Meeting, Stillwater, OK, September 19-20, 2000.
Marker Assisted Selection for Greenbug Resistance. (Poster) Annual Meeting, Entomological Society of America. December 12 -17, 1999, Atlanta, GA.
DNA Marker-Assisted Selection of Cereal Aphid Resistance Genes: Improving the Accuracy of their Inclusion in Wheat Insect Pest Management. North Central Branch, Entomological Society of America Symposium "Host Plant Resistance as a Component of Pest Management", March 28-31, 1999, Des Moines, IA.
Keynote Address: Merging Genes, Transgenes, and Plant Genomes for Durable Insect Resistant Crops in the Next Century. International Plant Resistance to Insects Biennial Workshop, March 15-18, 1998, Memphis, TN.
Physiological/Biochemical Responses to Aphid Feeding: How Do We Measure It and What Does It Mean? Joint Meeting: Greenbug Research Consortium & Western Coordinating Committee 66. September 16, 1998, Stillwater, OK.
Insect Resistant Plants: Essential and Valuable Elements of Food Production. Department of Entomology, University of Florida, October 22, 1998, Gainesville, FL.
Host Plant Resistance to the Wheat Curl Mite, *Aceria tosichilla* Keifer, as a Control Mechanism for Cereal Viruses. Joint Symposium, Annual Meeting of American Phytopathological Society & Entomological Society of America. November 7, 1998, Las Vegas, NV.
Global Aspects of Insect Resistant Crop Plants in Integrated Pest Management: An Ecological Perspective of Plant-Insect Interactions, International Conference on Ecological Agriculture, November 15-17, 1997, Chandigarh, India.
Molecular-Marker Assisted Selection for Aphid Resistance in Wheat, International Center for Genetic Engineering and Biotechnology, November 14, 1997, New Delhi, India.
Progress in the Development of Cereal Aphid Resistant Wheat in the United States, Department of Entomology and Nematology, IACR-Rothamsted, June 30, 1997, Harpenden, UK.

Molecular and Conventional Techniques for Developing Wheat Resistance to the Greenbug and Russian Wheat Aphid, Department of Agricultural and Environmental Science, University of Newcastle, June 27, 1997, Newcastle, UK.
Molecular Markers for Wheat Resistance to the Greenbug and Russian Wheat Aphid, Annual Meeting, Entomological Society of America, December 17, 1997, Nashville, TN.
Marker-Assisted Selection for Cereal Aphid Resistance – A Useful Technique? Department of Entomology, University of Nebraska, January 31, 1997 Lincoln, NE.
Techniques for Evaluating Plant Resistance to Arthropods. Guest lecture to Host Plant Resistance course, Department of Entomology, University of Nebraska, January 30, 1997, Lincoln, NE.
Molecular-Marker Assisted Selection for Aphid Resistance in Wheat, Department of Entomology, Kansas State University, October, 24, 1997, Manhattan, KS.
The Science and Economy of Plant Resistance to Insects. Czech National Research Institute for Crop Protection. September 2-4, 1996, Prague, Czech Republic.
The Value of Conserved Wheat Germplasm Evaluated for Arthropod Resistance. XX International Congress of Entomology, August 25-31, 1996, Florence, Italy.
An Overview of the Mechanisms and Bases of Insect Resistance in Maize. 2nd International Workshop on Insect resistance in Maize. CIMMYT, November 27-Dec 2, 1994, El Battan, Mexico.
Plant Resistance to Insects as a Component of Integrated Insect Pest Management and Physical and Chemical Mechanisms of Plant Resistance to Insects. Zagazig Agricultural University, October 17-19, 1992, Moshtohor, Egypt.

University of Idaho

Resistance of Host Crop Plants and Conservation Reserve Program Grasses to Russian Wheat Aphid. Tri-State County Agent Training Session on Management Strategies for the Russian Wheat Aphid., February 6, 1989, Pullman, WA.
Russian Wheat Aphid Research and Pesticide Use. Moscow, ID Chamber of Commerce Agriculture and Natural Resources Committee. March 1 and September 15, 1989.
Progress and Developments in Russian Wheat Aphid Resistance and Biological Control. Tri-State Wheat Worker's Workshop, June 27-27, 1989, Pullman, WA.

Louisiana State University

The Future of Plant Resistance to Insects Research. Seventh Biennial Plant Resistance to Insects Workshop, March 18-20, 1986. Manhattan, KS.
Interactions Between Mechanical Damage to Plants and Insect Populations. Annual Meeting Entomological Society of America. December 7-11, 1986. Reno, NV.
Rice Insect Control. Louisiana Extension-Research Rice Conference. January 10, 1985. Crowley, LA.
Varietal Resistance as a Control Tactic in the Integrated Management of Rice Pests. International Rice Research Conference. International Rice Research Institute. June 1-5, 1985. Los Banos, Laguna, The Philippines.
Insect Resistance in Rice. Symposium on "The Genetic Improvement of Rice." E.I. DuPont DeNemours and Co., September 12 & 13, 1985. Wilmington, DL.
How Reviewers Assess Proposals. Seminar on "The Competitive Grant Process." Louisiana Agricultural Experiment Station. September 27, 1985. Baton Rouge, LA.
Biology and Behavior of the Rice Water Weevil, *Lissorhoptrus oryzophilus* Kuschel, on Rice, *Oryza sativa* (L.). Symposium on Aquatic Plant-Insects Interactions. Annual Meeting, Entomological Society of America, December 8-12, 1985. Hollywood, FL.
Development of Insect Resistant Germplasm in Rice: A Case History. Sixth Biennial Plant Resistance to Insects Workshop, February 21-23, 1984. Charleston, SC.
Mechanisms of Plant Resistance in Soybean to the Soybean Looper. Entomology Departmental Seminar Series, North Carolina State University. February 24, 1984. Raleigh, NC.
Mechanisms of Resistance in Soybean (*Glycine max* L. (Merr.), to the Soybean Looper, *Pseudoplusia includens* (Walker) (Lepidoptera: Noctuidae). International Study Workshop on Host Plant Resistance to Insects. June 11-15, 1984. Nairobi, Kenya.
Rice Stink Bug Research. General Foods Rice Research Review Session. June 28, 1984. Crowley, LA.
Rice Insect Pest Management Research in Louisiana. Address to the Plant Genetics & Breeding Delegation, Rice Research Institute, People's Republic of China. October 23, 1984. Baton Rouge, LA.

Rice Insect Pest Management in Louisiana. Kelloggs Corporation. December 19, 1984. Baton Rouge, LA.
Current Status of Rice Insect Pest Management in Louisiana. Rice Pest Management Symposium. Annual Meeting, Louisiana Entomological Society, March 10, 1983. Baton Rouge, LA.
Invited Lectures, West African Rice Development Association Short Course, January 10-28, 1982. Monrovia, Liberia (See publications for specific titles).
Current Aspects of Rice and Soybean Host Plant Resistance Research in Louisiana. Monsanto Agricultural Research Center, December 2 & 3, 1982. St. Louis, MO.
Integrated Pest Management of Rice Insect Pests of the United States. XVI International Congress of Entomology, August 3-8, 1980. Kyoto, Japan.
Development of Insect Resistant Varieties of Rice in Louisiana. Saturday Seminar Series. The International Rice Research Institute, August 9, 1980. Los Banos, Laguna, The Philippines.

MEMBERSHIPS & ACTIVITIES IN PROFESSIONAL ORGANIZATIONS:
American Association for the Advancement of Science
Entomological Society of America:
Professional Service Activities:
Judge, 2005 Pioneer Hi-Bred International Graduate Student Fellowship
Subject Editor, Journal of Economic Entomology, 2004-present
Chair, North Central Branch C. V. Riley Award of Merit Committee, 2001
Member, S. D. Beck Scholarship Selection Committee, 2000-2002.
Governing Board Representative, Section F, 1995-97.
Council of Entomology Department Administrators, Chair, 1995
Head Judge, Section Cd, President's Prize Student Competition, 1993 National Meeting.
Chair, Section Fa, 1992.
Chair, Resolutions Committee, 47th Annual Meeting, North Central Branch, 1992.
Member, Registration Committee, 47th Annual Meeting, North Central Branch, 1992.
Member, Travel Grants Committee and Youth Science Development Committees, 1991-93.
Head Judge, Section F President's Prize Student Competition 1991 National Meeting.
Chair, Program Committee for 74th Annual Pacific Branch Meeting, 1990.
Member, Section F Program Committee, 1989 & 1990 National Meetings.
Program Committee for 73rd Annual Pacific Branch Meeting, 1989.
Member, Southeastern Branch Student Awards Committee, 1987-88.
Linnaean Games Judge, 1985 National Meeting.
Developed and chaired the Section F Symposia:
"The Chemical Basis of Insect Resistance in Crop Plants," National Meeting, Entomological Society of America, December 3, 1980, Atlanta, GA.
"Plant Resistance to Insects: Research Strategies for the 21st Century," National Meeting, Entomological Society of America, December 10, 1984, San Antonio, TX.
"Value and Use of Plant Resistance to Insects in Integrated Crop Management" Robert H. Nelson Memorial Symposium, National Meeting, Entomological Society of America, December 9, 1992, Baltimore, MD.

Kansas Entomological Society, President-2003.

Louisiana Entomological Society, President-1985, President-elect-1984, Membership Committee-1984, Publicity Committee-1983, Nominating Committee-1982, Program Committee-1981.

International Plant Resistance to Insects Workshop, Program Committee, 1991-92, Steering Committee, 1987-88, 2000-present.

Regional Research Groups
NCS-3 North Central Regional Integrated Pest Management, 1990-96.
NCA-15 North Central Region Entomology Department Administrators, 1990-96, Chair, 1996.
WCC-66 Biology & Management of Russian Wheat Aphid, 1988-91, 1998-present.

SRIEG32 Host Plant Resistance to Soybean Insect Pests, 1983-88, Chair, 1983.
SR-162 Rice Insect Pests of the Southern United States, 1980-88, Chair 1981 and 1986.

ADMINISTRATIVE EXPERIENCE:
1994 Acting Dean & AES Director, College of Agriculture, Kansas State University, November.
1993 ESCOP/ACOP Leadership Development Class 3.
1990-96 Head, Dept. of Entomology, Kansas State University, responsible for professional development of 19 faculty, 11 research associates, 30 graduate students, 6 professional staff.
1988-90 Chair, Division of Entomology, Dept. of Plant, Soil and Entomological Sciences, University of Idaho, responsible for the professional development of 13 faculty and 5 technicians.

HONORARY MEMBERSHIPS: Gamma Sigma Delta, Sigma Xi, Beta Beta Beta.

MAJOR RESEARCH INTERESTS: Plant resistance to arthropods, with emphasis on the development of genotypic and phenotypic resistance evaluation techniques; identification of the categories (types) and mechanisms (causes) and genes responsible for resistance.

CONTINUING EDUCATION:
Microarray Analysis and Bioinformatics Workshop, Ecological Genomics Institute, Kansas State University, Manhattan, KS, July 9 - 12, 2007.
Gordon Conference Genomics & Evolutionary Bioinformatics, South Hadley, MA, July 2002.
New England Biolabs Molecular Biology Workshop, Northhampton, MA, July 1996.
*Successful Presentation Skill*s, Pryor & Associates, Topeka, KS, February 1993.
How to Manage Priorities and Meet Deadlines, Pryor Resources, Inc., Topeka, KS, July 1992.
Conducting Personnel Evaluations, Kansas State University, Manhattan, November 1991.
The Manager as Coach, Career Track Group Seminars, Topeka, KS, September 1991.
North Central Administrative Workshop, University of Nebraska, Lincoln, June 1991.
Insect Bites and Stings, SW Okla. St. Univ. Pharmacy School. Winter Park, CO. March, 1991.
How to Handle Difficult People, National Seminars Presentation. Manhattan, KS. October 1990.
Biotechnology for Agriculture, Monsanto Corp. Roundtable. Pasco, WA. March 1990.
Performance Appraisal, University of Idaho Human Resources Office. March 1990.
How to Work With People, National Seminars Group Presentation, Spokane, WA. Nov. 1989.
Soft Systems Teaching for Courses in Agriculture & Home Economics, Post Falls, ID, Aug 1988.
Stress Management in the Home and Workplace, Louisiana State University, October 1987.
Biotechnology in Entomology, Board Certified Entomologists, Jackson, MS, January 1987.
Leadership Skills, Louisiana State University Continuing Education Course. Spring, 1987.

PUBLIC SERVICE/OUTREACH:
K-State Entomologist Studying Wheat Plant Genes Affected by Aphids to Create Low-Risk Method of Pest Management. Kristin Hodges KSU Media Services Story. Monday, Nov. 24, 2008, Manhattan, KS.
Bugs, Bugs, Bugs – A Public Service Educational Presentation.
90 at-risk students, Cooper Elementary School, South Wichita, KS (Derby Recreation Commission) June 5, 2006.
~30 students, Karen Bargabus' 4th grade class, Northview Elementary School, Manhattan, KS. September 28, 1999.
40 Gifted/Talented students, Amanda Arnold Elementary School, Manhattan, KS, November 1992 & April 1993.
~270 students (9 sessions), Kansas State Fair, September 1993 & 1994.
~50 students, McDonald Elementary School, Moscow, ID, 6th grade classes, November, 1989.
Genetically Modified Foods: Risks and Benefits. KState Research & Extension Media Day, March 30, 2000. Manhattan, KS.
Insects and People: Past, Present & Future. Manhattan Kiwanis Club Meeting. November 9, 1999, Manhattan, KS.

UNIVERSITY SERVICE:
Kansas State University:
Steering Committee, Arthropod Genomics Targeted Excellence Institute 2006 - 2010
Steering Committee, Ecological Genomics Targeted Excellence Institute 2005-2007
Faculty Senate, 2001 - 2006, College of Agriculture Caucus Chair, 2003-2004
Pre-Health Professions Evaluation Committee, 2002-present
President's Commission on Multicultural Affairs, 1994-1996
College of Agriculture:
Technology in the Classroom and Distance Education Advisory Committee, 1999-2002
Honors Advisory Committee, 1997-2004
Diversity Committee, 1994-96, Chair, 1995
Search Committees: Interim Dean, 1992, 2003; Plant Pathology Department Head, 1993-94
International Agricultural Advisory Committee, 1992-2003
Kansas AES-CES Annual Conference, Vice Chair, 1992, Chair, 1993
Selection Committee, Outstanding Agricultural Alumni Service Award, 1992
Committee for Kansas Board of Regents Mission, Role & Aspirations Report, 1992
Selection Committee, Outstanding Undergraduate Teaching Award in Agriculture, 1991
Cultural Diversity Task Force, Kansas Cooperative Extension Service, 1991-96
Department of Entomology:
Greenhouse Space Committee, 2012
Chair, Search Committee for Medical Veterinary Extension Entomology position, 2008
Planning Committee, 2004-2006, Chair 2007
Tours Committee, 2005-06, Chair 2006
Public Relations Committee, 2003-05, Chair 2005
Safety Committee, 2000-2003, Chair 2003
Graduate Affairs Committee, 1999-2002, Chair 2002
Seminar Committee, 1997-98, Chair 1998
Awards Committee, 1999-2001
Co-Editor, International Plant Resistance to Insects Newsletter, 1996-2000

Louisiana State University:
Member, Search Committees for Veterinary, Forages, Genetics, & Department Head positions
Chair, Department Committee for "Peterson's Guide to Graduate Study"
Member, Distinguished Lecturer Selection Committee, 1983-84, Chairman, 1983
Speaker, LSU Rice Research Station Field Day, 1979, 1981, 1983, 1985
Panel Review Member, USDA Special Grants Program for Soybeans, 1981
Peer Reviewer, USDA Special, Competitive, & Tropical Agriculture Grants Programs, 1982-88
LSU Agricultural Center Self-Study Committee for Rice Integrated Pest Management, 1982
Member, L. D. Newsom Graduate Student Award Committee, 1984-88
Member, Louisiana Biotechnology Institute Advisory Committee, 1986-87
Member, Entomology Department Seminar Committee, 1984-86; Chair, 1986
Program Area and Departmental Goals Committees, CSRS Departmental Review, April, 1984
Member, Louisiana Rice Variety Recommendation Committee, 1984-86
Member, Faculty Evaluation Procedure Committee, 1986
Member, Entomology Department Student Admissions Committee, 1986-89
Member, LAES Staff Conference Planning Committee, 1986-87
University of Idaho:
Executive Council, College of Agriculture, 1989-90
Plant, Soil and Entomological Sciences Executive Committee, 1989-90
Participating faculty member Institute for Molecular and Genetic Engineering, 1989-90
Search Committee for DP Programming position to support IPM Coordinator, 1989
Tenure Review Committee, Department of Plant, Soil and Entomological Sciences, 1989
Centennial Field Day Committee, 1989
PSES Undergraduate & Graduate Recruiting Brochures, 1989
Idaho Gypsy Moth Technical Advisory Committee, 1990

Sabbatical Leave Evaluation Committee, 1990

Government Agency Grant Review Panels:
2010
NSF Physiological and Structural Systems, Symbiosis, Defense and Self-recognition Panel P011144. October 18-20. Reviewed 15 (5 primary, 6 secondary, 6 tertiary) of 51 proposals.
2007
NSF Small Business Innovation Research/Small Business Technology Transfer Panel P070762 Agricultural Disease Control. March 2. Reviewed 7 of 13 proposals.
NSF Physiological and Structural Systems, Symbiosis, Defense and Self-recognition Panel P071274. May 14-16. Reviewed 18 (6 primary, 6, secondary, 6 tertiary) of 82 proposals.
NSF Physiological and Structural Systems, Symbiosis, Defense and Self-recognition Panel. October 17 - 19. Reviewed 19 (7 primary, 6, secondary, 6 tertiary) of 113 proposals.
2001 NSF Integrative Plant Biology Program Panel, Oct 15-17, 2001. Reviewed 15 (9 primary - 9, 6 secondary) of 89 proposals.
2000 USDA/Biotechnology Risk Assessment Program Panel. Reviewed 5 of 21 proposals.

Ad Hoc Reviews
2007 French National Research Agency, Group CSD 7- Environmental Science and Agronomy, Programme Blanc 2007. G. Philippe et al.,Eliciteurs Salivaires des Aphides.
2005 USDA/NRI Arthropod & Nematode Gateways to Genomics Proposal #05-00961; USDA/NRI Integrative Biology or Arthropods & Nematodes Proposal #05-00885
2001 USDA/NRI Plant Genetic Mechanisms #01-01747 & #01-02751; Grant Agency of the Czech Republic #522021507.
2000 NRI proposals #00-02844 & #00-02751.
1998 USDA/NRI #99-02718, USDA/NRI #99-02629; USDA/Biotechnology Risk Assessment #99-03996; Indo-Swiss Collaboration in Biotechnology #WN-3.
1996 Grant Agency of the Czech Republic #522/977/0219

Journal Reviews: *Arthropod-Plant Interactions, Crop Science, Environmental Entomology, Euphytica, Experimentalis et Applicata, Genome, Iran Journal of Agricultural Research, Journal of Chemical Ecology, Journal of Economic Entomology, Maydica, Planta, Plant Breeding, Plant Physiology, Theoretical & Applied Genetics.*

POSTDOCTORAL SCIENTISTS SUPERVISED AT KANSAS STATE UNIVERSITY:
Dr. Wen Po Chunag, Penn State University (2012-present).
Dr. Deepak Sinha, International Center for Genetic Engineering and Biotechnology (2012-present).
Dr. Marimuthu Murugan, Department of Plant Molecular Biology & Biotechnology, Tamil Nadu Agricultural University, Coimbatore, India (2009-12).
Dr. Shah Alam Khan, NWFP Agricultural University, Peshawar, Pakistan (2009-12).
Dr. Sonia Lazzari, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brasil (2007-08).
Dr. Elena V. Boyko, (Research Asst. Professor), Dept. of Entomology, Kansas State University (2004-08).

INSTRUCTIONAL EXPERIENCE:
Kansas State University:
ENTOM 830 *Molecular Entomology.* Guest lectures biennially since 2006.
ENTOM 312 ZA General Entomology Distance Online. Each semester since Fall 2011.
Plant Resistance to Insects, Czech Agricultural University, Praha, Czech Republic, March-May, 2002.
AGRON/ENTOM/PLPTH 732 *Plant Resistance to Pests*. Coordinated biennially since 2000.
ENTOM 312 *General Entomology.* Biennially since 2000.
ENTOM 313 *General Entomology Laboratory.* Biennially since 2000.
ENTOM 745 *Insect Control by Host Plant Resistance.* Guest lectures biennially since 1992.
ENTOM 885 *Conventional and Molecular Methods of the Evaluation of Plant Resistance to Pests.*

Organized course & taught biennially since 2001.
Principles of Plant Resistance, Zagazig University, Moshtohor, Egypt, October 1992.

University of Idaho:
Ent 115 *Insects & Man*, Spring 1989-90.
Ent 501 Entomology Seminar; Spring 1989.
Ent 445/546 *Host Plant Resistance & Cultural Suppression of Insects;* 1990 [Evaluation 4.3/5.0]
Guest Lecturer, PltSc 446 *Plant Breeding*. Spring 1989.

Louisiana State University:
Guest Lecturer HEC 7065 *Management of Family Resources.*1983-86.
Guest Lecturer AGRO 4061 *Rice Production*. 1980-87.
ENTM 8000, *Writing Techniques for Entomologists.* Fall 1983 (Jointly with T. C. Sparks).
ENTM 7002, *Plant Resistance to Arthropods*. 1978-85. [Average evaluation rating 4.1/5.0]

Students Graduated:
Paola Sotelo. 2010. Interactions Among Biological Control, Cultural Control and Barley Resistance to the Russian Wheat Aphid In Colorado, Kansas and Nebraska. Ph.D. Dissertation. Kansas State University. 181 pages.
Laura Starkus. 2010. Virus-Induced Gene Silencing of Putative *Diuraphis noxia* (Kurdjumov) Resistance Genes in Wheat. M. S. Thesis. Kansas State University. 68 Pages.
Teru Niide. 2009. Development of Soybean Host Plant Resistance and Other Management Options for the Stem Borer, *Dectes Texanus* Leconte. Ph.D. Dissertation. Kansas State University. 123 pages.
Sheila Prabaker. 2006. Molecular Characterization of Digestive Proteases of the Yellow Mealworm, *Tenebrio molitor* L. Ph.D. Dissertation. Kansas State University. 160 pages.
Priyavada Voothuluru. 2005. Categories and Inheritance of Resistance in Wheat Cereal Introduction 2401 to Russian Wheat Aphid (Homoptera: Aphididae) Biotype 2. M. S. Thesis. Kansas State University. 72 pages.
Lieceng Zhu. 2005. Molecular Mapping and Categorization of Wheat Genes Expressing Resistance to the Greenbug, *Schizaphis graminum* (Rondani). Ph.D. Dissertation. Kansas State University. 99 pages.
Xuming Liu. 2001. Molecular Mapping of Wheat Genes Expressing Resistance to the Russian Wheat Aphid, *Diuraphis noxia* (Mordvilko) (Homoptera: Aphididae) Ph.D. Dissertation. Kansas State University. 144 pages.
Renu Malik 2001. Molecular Genetic Characterization of Wheat Curl Mite, *Aceria Tosichella* Keifer (Acari:Eriophyidae), and Wheat Genes Conferring Wheat Curl Mite Resistance. Ph.D. Dissertation. Kansas State University. 144 pages.
Michael Flinn. 2000. A Molecular Marker Linked to Tolerance in *Aegilops tauschii* Accession 1675 to Greenbug (Homoptera:Aphididae). M.S. Thesis. Kansas State University. 59 pages.
Hildelisa Hernandez. 1988. Search for Allelochemicals in Rice (*Oryza sativa*) and Structure Determination of External Flavonoids of *Calamintha ashei*. Ph.D. Dissertation. Louisiana State University. 135 pages.
Marieanne E. Hollay. 1987. Rice Stink Bug, *Oebalus pugnax* (F.), on Rice: Evaluation for Plant Resistance, Interaction of Field Fungi with Feeding Damage, and Evaluation of Insecticides for Control. Ph.D. Dissertation. Louisiana State University. 156 pages.
Colwell A. Cook. 1987. Categories of Resistance in Rice to the Rice Water Weevil, *Lissorhoptrus oryzophilus* Kuschel. M.S. Thesis. Louisiana State University. 87 pages.
Alberto Pantoja. 1985. Biology, Economic Injury, and Plant Resistance Studies with the Fall Armyworm, *Spodoptera frugiperda* (J. E. Smith), on Rice, *Oryza sativa* L. Ph.D. Dissertation. Louisiana State University. 85 pages. p62
Porfirio Caballero. 1985. Allelochemicals from Soybean Affecting *Pseudoplusia includens* (Walker) Biology and the Pheromone from *Chilo plejadellus* Zincken Mediating C. plejadellus Sexual Behavior. Ph.D. Dissertation. Louisiana State University. 100 pages.
Gary L. Cave. 1983. Biological, Ecological and Morphological Investigations of the Rice Water Weevil, *Lissorhoptrus oryzophilus* Kuschel, on Two Rice Genotypes. Ph.D. Dissertation. Louisiana State University. 78 pages.

Karen M. Kester. 1983. The Southern Green Stinkbug, *Nezara viridula* (L.): Growth, Development, Nutrition and Mechanisms of Resistance in Soybean (*Glycine max* (L.) Merrill) Genotype P171444. M.S. Thesis. Louisiana State University. 84 pages.

External Examiner:

Francois Burger, (M.S.), Univeristy of Pretoria, South Africa
Leon Van Eck, (M.Sc. 2007), Univeristy of Pretoria, South Africa
Nadia Abd-Allah Ali, (M.Sc. 2005). Biological, Ecological and Chemical Control Studies on *Saissetia aleae* (Olivier) Infesting Apricot Trees in Egypt, University of Cairo.
Lynelle Laycock, (Ph.D. 2004), Univeristy of Pretoria, South Africa
Tesfay Belay, (Ph.D. 2003), Institute of Forest Entomology, Pathology & Forest Science, University of Bodenkultur, Vienna, Austria
Jacob Lage, (Ph.D. 2003), The Royal Veterinary and Agricultural University, Copenhagen, Denmark

Current Graduate Student Advisees:

Major advisor: Lina Aguirre (M.S.); **Co-major advisor:** Sandra Garces (Ph.D.), Luay Kahtan (Ph.D.)

VOLUNTEERED PRESENTATIONS: 90+ since 1978.

CIVIC ACTIVITIES:

Gold Orchestra Parent Support Organization 1992-1998
First United Methodist Church, Manhattan, KS 1990 - present
Staff Parish Relations Committee (4 years), Adult Choir (10 years), Stewardship Committee (2 years)
Manhattan Kansas Arts Center Patron 1999-present

OUTSIDE INTERESTS AND HOBBIES:

International travel, vocal and instrumental music, gardening, hunting, fishing, and photography.