

Jay S. Bancroft

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Education:

- 2000 Ph.D. University of Connecticut. Ecology and Evolutionary Biology.
- 1995 M.S. Kansas State University. Entomology.
- 1988 B.S. University of Colorado. Computer Science Engineering.

Professional Positions:

- 2002-present Research Scientist. USDA Agricultural Research Service.
- 2001-2002 Biometrician. State of Delaware. Division of Fish and Wildlife.
- 2000-2001 Postdoctoral Associate. USDA ARS. Beneficial Insects Introductions Research Lab.
- 1995-2000 Teaching Assistant and Research Assistant. University of Connecticut.
- 1992-1995 Teaching Assistant and Research Assistant. Kansas State University.
- 1992 Lab Assistant. USDA Agricultural Research Service.
- 1988-1991 Computer Engineer. Contractor – US Naval Research Lab.

Grants & Awards:

- 2004 Award for procreative efforts to establish Ecology laboratory in Shafter Cotton Incorporated. Dispersal research \$5000
University of California. Maintenance support and 2 acre field plot
Agricultural Research Service. Minority Summer Intern support \$1250
- 2003 University of California. Maintenance support and 2 acre field plot
Agricultural Research Service. Minority Summer Intern support \$1750
University of California. Whitefly IPM Cooperator \$30,000
- 2001 USDA HPRL equipment grant. \$15000
- 1997-98 University of Connecticut. NSF Biodiversity trainee fellowship. \$14000
University of Connecticut. Summer Fellowship. \$332
- 1996 University of Connecticut. Summer Fellowship. \$1100
University of Connecticut Museum of Natural History Slater grant. \$150
National Center for Ecological Analysis and Synthesis. Travel award to attend
Spatio-Temporal Dynamics Conference.
- 1995 R.C. Smith award for outstanding MS student. Kansas State University.
- 1994 Best student poster. Kansas Entomological Society.
Best student paper. Acarology Society of America.
- 1994 Linnaean team 1st place. North Central Branch of Entomological Society of America.
Travel award to Annual ESA meeting Nationals: 2nd place.
Best student poster. Entomological Society of America. North Central Branch.

Publications:

- Bancroft, J.S. Submitted. Dispersal and abundance of *Lygus hesperus* in cotton, bean, and alfalfa.
- Bancroft, J.S. and M.T. Smith. Provisionally accepted.. Movement of *Anoplophora glabripennis* Calculated from Individual Mark-Recapture. Entomol. Exp. et Appl.
- M.T. Smith, P Tobin, Bancroft, J.S. 2004. Dispersal and Spatiotemporal Dynamics of Asian Longhorned Beetle (Coleoptera: Cerambycidae) in China Environmental Entomology 33: 435-442
- Bancroft, J.S. and P. Turchin. 2003. An experimental test of fragmentation and loss of habitat with *Oryzaephilus surinamensis*. Ecology 84: 1756-1767.
- Funk P., C. B. Armijo, D. McAlister III, A. Brashears, J. S. Bancroft, B. Roberts, B. Lewis. 2003. Thermal Defoliation. Proceedings of the Beltwide Cotton Conference. p. 2549-2553
- Godfrey L., K. Keillor, P. Goodell, M. McGuire and J. Bancroft, R. Hutmacher. 2003. Management of Late season insect pests for protection of cotton quality in the San Joaquin Valley. Beltwide Cotton Conference. p. 1089-1094.
- Bancroft, J.S., M.T. Smith, E.K. Chaput and J. Tropp. 2002. Effects of eight host-trees and larval history on weight gain of the Asian longhorned beetle. J. Kansas Ent. Soc. 75: 308-316
- Bancroft, J.S. 2002. Exotic invader poses threat to trees. Great Outdoors 4: 36-37.
- Smith, M.T. and J.S. Bancroft. 2002. Age-specific fecundity of the Asian longhorned beetle on black willow, Norway maple and red maple. Environmental Entomology 31: 76-84.
- Bancroft, J.S. 2001. Population regulation and intraspecific interaction with experimentally limited habitat. Environmental Entomology 30: 1061-1072. <http://esa.edoc.com/>.
- Smith, M.T., J.S. Bancroft, G. Li, R. Gao, and S. Teale. 2001. Dispersal of the Asian longhorned beetle, *Anoplophora glabripennis* Motsch. Environmental Entomology 30: 1036-1040. <http://esa.edoc.com/>.
- Bancroft, J.S. and D.C. Margolies. 1999. Individual based modeling of population dynamics with example of acarine tri-trophic interaction. Ecological Modelling 123: 161-181.
- Bancroft, J.S. 1999. A model system and individual-based simulation for developing statistical techniques and hypotheses for population dynamics in fragmented populations. <http://www.interjournal.org>. Interjournal 239: 6.
- Bancroft, J.S. 1998. *Tribolium castaneum* co-existence with barklice and the sawtooth grain beetle. *Tribolium* Information Bulletin. 8: 255-256.
- Bancroft, J.S. 1998. Compared development time for three strains of *Tribolium castaneum*. *Tribolium* Information Bulletin. 38: 257-258.
- Bancroft, J.S. and D.C. Margolies. 1996. Allocation of time between feeding, resting, and moving by the twospotted spider mite and its predator *Phytoseiulus persimilis*. Exp. Appl. Acarol. 20: 391-404.
- Bancroft, J.S. and D.C. Margolies. 1996. An individually based model of two spotted spider mite and *Phytoseiulus persimilis* populations. In G.L. Needham, D.J. Horn, & W.C. Welbourn (eds.), Acarology IX, Vol. 1: Proceedings of the International Congress of Acarology.

Presentations:

- 2004 Integrating mark-recapture, weather, and remote sensed data to predict movement. International Congress of Entomology. Symposium talk and organizer.
Peristenus stygicus and *Aphelinus* near *parwali* parasitoids of cotton pests in the San Joaquin Valley. Entomological Society of America. Poster
Pest Research. Field Day of Shafter Research Extension Center. Poster.
Ecology and Biological Control. Agricultural Futures Program of Shafter Research Extension Center. Talk.
Population model of western tarnished plant bug: dispersal and seasonal migration. Entomological Society of America. Talk.
Ecology. California State University at Bakersfield. Guest lecturer.
Understanding Dispersal by Integrating Theory, Experiments and Analysis. NCEAS and UC Riverside. Seminars.
- 2003 Dispersal of *Lygus hesperus* in cotton and alfalfa. Entomological Society of America. Talk.
Peristenus stygicus and *Aphelinus* near *parwali*, parasitoids of cotton pests in the San Joaquin Valley. Entomological Society of America. Poster.
Studying Nature or What it's like to be an entomologist? Agricultural Futures Program. Talk.
Movement of Asian Longhorned Beetle Inferred From Individual Mark-Recapture. Entomological Society of America. Poster.
Pest Research. Field Day of Shafter Research Extension Center. Poster.
Spatial analysis: experimental design and the movement of insect populations. ARS Parlier. Seminar.
- 2002 Dispersal of the Asian longhorned beetle, *Anoplophora glabripennis* (Coleoptera: Cerambycidae) and distribution of at-risk trees in New York City. Ecological Society of America. Poster.
Using ancillary spatio-temporal data in blue crab population forecasting. American Fisheries Society and Delaware GIS & State Planning. Poster.
- 2001 Approach and importance of modeling. USDA National Management Program on Asian Longhorned Beetle. Talk.
Dispersal predictions for *Anoplophora glabripennis*. Eastern Branch Entomological Society of America. Talk.
Dispersal of the Asian longhorned beetle. USDA Interagency Forum on Invasive Species. Poster.
- 2000 Individual based simulation of *Anoplophora glabripennis* dispersal. Entomological Society of America. Talk.
Movement behavior of the Asian longhorned beetle: predictive modeling to aid in eradication surveys. Entomological Society of America. Poster.
Fragmented populations: theory and experiments. Univ. of Delaware. Invited Seminar.
Invasive species: Asian longhorned beetle. University of Connecticut (UConn). Applied Entomology. Guest lecturer.
Outline of a modeling approach to aid in the eradication of the Asian longhorned beetle. Entomological Society of America - Eastern Branch Meeting. Poster.
Study of the sawtooth grain beetle and key model calibration data for declining fragmented populations. Entomological Society of America - Eastern Branch Meeting. Talk.
- 1999 Modeling declining fragmented populations. UConn. Ph.D. defense seminar.
Using statistical moments to fit hypotheses for the mechanism of dynamics in a fragmented population. International Society of Ecological Modeling. Talk.
Key parameters for persistence in a fragmentation study. Ecological Society of America. Talk.
Key parameters for persistence in a fragmentation study. Society for Conservation Biology. Talk.

- Effects of spatial fragmentation in population dynamics of the sawtooth grain beetle. UConn. Department of Ecology and Evolutionary Biology. Seminar.
- Mathematical patterns of spread by invasive species. Invasive Species Seminar. Guest presentation.
- 1998 Symbiosis, mutualism, and parasitism. UConn. General Ecology. Guest lecturer.
- A model system and individual-based simulation for developing statistical techniques and hypotheses for population dynamics in fragmented populations. International Conference on Complex Systems. Poster.
- Common stored product pests: ecology of barklice, silverfish, red flour beetles, Indian meal moths, and *Bracon hebetor*. Connecticut Entomological Society. Invited speaker.
- Key parameters for persistence and stability in a fragmentation study. International Society of Ecological Modeling. Talk.
- 1997 Analysis of density dependence in the sawtooth grain beetle. Ecological Society of America. Poster.
- Ecology and density dependence in *O. surinamensis*. UConn. Graduate Student Symposia. Talk.
- 1995 An individual based model of twospotted spider mite populations. UConn. Graduate Student Symposia. Talk
- An individually based model of two spotted spider mite and *Phytoseiulus persimilis* populations. International Congress of Acarology IX. Poster.
- 1994 Tri-trophic interaction with spider mites. Acarology Society of America. Talk.
- An individual based model of twospotted spider mite populations. KSU Graduate Student Symposia. Talk.
- Tri-trophic interaction with spider mites. Kansas Entomological Society. Poster.
- 1993 An individual based model of twospotted spider mite populations. Entomological Society of America – North Central Branch. Poster.

Professional activities:

USDA Agricultural Research Service. Western Integrated Cropping Systems Research Laboratory. Designed and carried out field experiments in Shafter, CA. Mark-recapture studies assessed movement in response to field margin barriers, host-plant, and weather. Measured parasitoid attack across age and in response to host-insect stage. Designed, implemented, tested, and used a simulation to predict spatio-temporal dynamics of *Lygus hesperus*. Managed the laboratory's website.

Delaware Fisheries and Atlantic States Marine Fisheries Commission. Stock assessment of blue crab, oyster, tautog, black seabass, and summer flounder. Use Monte Carlo Markov Chain techniques to synthesize information on harvest, effort, survey indices and ancillary environmental data. Incorporate refuge dynamics into models using remotely sensed spatial data. Predict the effect of alternative regulatory measures on sustainable harvest.

USDA Agricultural Research Service. Beneficial Insect Introduction Research Laboratory. Designed and carried out field experiments in Gansu, China. Mark-recapture studies assessed behavioral frequency and duration and daily movement in response to individual state, local tree density, and weather. Other experiments measured effects of age and host-tree on larval suitability and oviposition. Analysis of data using general linear models and repeated measures with SAS and Statistica. Designed, implemented, tested, and used an individual based simulation to predict spread of ALB (in C++). Managed the Asian longhorned beetle website.

University of Connecticut: Teaching Assistant (5 sem.) – Medical Entomology and General Biology. Organized, taught, and tested laboratory portions of the courses. Supervised three undergraduate laboratory assistants.

Teaching workshop at UConn. Institute for Teaching and Learning.

Research Assistant. Developed landscape simulation model of vole-weasel populations dynamics on a patch lattice of home ranges.

Kansas State University. Teaching Assistant (4. sem.) – Insect Morphology and Insect Taxonomy. Organized, taught, and tested laboratory portions of the courses.

Research Assistant (2 sem.). Curation of entomology research collection.

USDA Agricultural Research Service. Insect Neuro-hormone Laboratory. Maintained *Heliothis* cultures and ran gel electrophoresis.

Locus Incorporated. Systems Engineering. Analog and digital data acquisition, and real-time simulation programming. Secret Clearance.

DuPont Co., Inc. Peripheral interfacing and programming for data acquisition and analysis.

Service:

Delaware Invasive Species Council. 2002.

Scientific staff for Connecticut Bioblitz. 1999 and 2000.

Instructed summer intern in disadvantaged youth program at UConn 1998.

Graduate Student Chairperson for EEB at UConn. 1996.

President of KSU Entomology Club 1994-1995.

Organized graduate student symposia at UConn (1996) and KSU (1994).

Smithsonian Insect Zoo Volunteer. Answered questions, maintained colonies and exhibits.

Member: Entomological Society of America, Ecological Society of America, American Fisheries Society, Institute for Electrical and Electronics Engineers, American Acarological Society, International Society of Ecological Modeling, The Wildlife Society.

Misc. volunteer: Nature Conservancy, Univ. of Connecticut Community Outreach, Future Farmers of America, Boy Scouts, Habitat for Humanity, and University of Colorado Museum entomology collection.