

Curriculum Vitae

Travis Cole Glenn

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EDUCATION

Ph.D. 1997. Zoology -- ecology, evolution, and behavior emphasis; University of Maryland, College Park, MD. Dissertation Title: *Genetic bottlenecks in long-lived vertebrates*.

M.S. 1990. Natural Resources -- wildlife science emphasis; School of Natural Resources, University of Michigan, Ann Arbor, MI. Thesis Title: *Genetic variation in Michigan elk (Cervus elaphus)*.

B.S. 1989. Animal Ecology with Honors & Distinction -- biotechnology emphasis; Iowa State University, Ames, IA.

PROFESSIONAL EMPLOYMENT

2007-present Associate Professor, Environmental Health Sciences, University of Georgia
2007-present Genomics Facility Faculty Director, University of Georgia
2002-present Adjunct Asst./Assoc. Professor, Warnell School of Forest Resources, Univ. of Georgia
2000-present Adjunct Asst./Assoc. Professor, School of the Environment, Univ. of South Carolina
1999-present Adjunct Asst./Assoc. Professor, Interdisciplinary Toxicology Program, Univ. of Georgia
1998-present Adjunct Asst./Assoc. Professor, Dept. of Biological Sciences, Univ. of South Carolina
2004-2007 Associate Research Scientist, Savannah River Ecology Lab, Univ. of Georgia
2002-2007 Assoc. Director, Institute for Biol. Research and Training, Univ. of South Carolina
1998-2004 Assistant Research Scientist, Savannah River Ecology Lab, Univ. of Georgia
1997-1998 Post-doctoral Researcher, Dept. of Biology, University of South Carolina
1992-1996 Pre-doctoral Research Fellow, Smithsonian Institution, Washington, DC
1991-1992 Teaching Assistant, Dept. of Zoology, Univ. of Maryland, College Park
Fall 1990 Resident Manager, Iowa State Honors Semester - World Food Production & Policies, National Collegiate Honors Council and Iowa State University, Ames
Spring 1990 Teaching Assistant, Dept. of Biology, Univ. of Michigan
Fall 1989 Research Assistant, School of Natural Resources, Univ. of Michigan

PATENTS

Glenn, T.C. Direct Measurement of Mutation Rates in Germline and Somatic Cells Using Selective Hybridization and Massively Parallel DNA Sequencing. Provisional Patent Filed March 30, 2007.

Glenn, T.C. et al. Source tagging and library normalization for parallel DNA sequencing. Provisional Patent Filed March 30, 2007. Experiments underway, in collaboration with Invitrogen.

PUBLICATIONS

Manuscripts Accepted & In Press

71. Francl, K. E., T. C. Glenn, S. B. Castleberry, and W. M. Ford. In Press. Genetic relationships of meadow vole (*Microtus pennsylvanicus*) populations in central appalachian wetlands. Canadian Journal of Zoology.

70. Winn, R. N., A. J. Majeske, C. H. Jagoe, M. B. Norris, M. H. Smith, and T. C. Glenn. In Press. Transgenic λ medaka: a new model for germ cell mutagenesis. *Environmental and Molecular Mutagenesis*
69. Crawford, N. G., J. Zaldívar-Rae, C. Hagen, N. A. Schable, E. B. Rosenblum, T. W. Reeder, J. A. Graves, and T. C. Glenn. In press. Twelve polymorphic microsatellite DNA loci from whiptails of the genus *Aspidoscelis* and related cnemidophorine lizards. *Molecular Ecology Notes*.

In Print/Available Online

68. Duffie, C., T. C. Glenn, C. Hagen, and P. Parker. 2007. Microsatellite markers isolated from the flightless cormorant (*Phalacrocorax harrisi*). *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.02024.x
67. Crawford, N. G., C. Hagen, H. F. Sahli, E. A. Stacey, and T. C. Glenn. 2007. Fifteen polymorphic microsatellite DNA loci from Hawaii's *Metrosideros polymorpha* (Myrtaceae: Myrtales), a model species for ecology and evolution. *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.01937.x
66. Peters, M. B., K. H. Beard, C. Hagen, E. M. O'Neill, K. E. Mock, W. C. Pitt, and T. C. Glenn. 2007. Isolation of microsatellite loci from the coqui frog, *Eleutherodactylus coqui*. *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.01899.x
65. Lutz-Carrillo, D. J., C. Hagen, L. A. Dueck, and T. C. Glenn. 2007. Isolation and characterization of microsatellite loci for Florida largemouth bass, *Micropterus salmoides floridanus*, and other micropterids. *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.01917.x
64. Peters, M. B., C. Hagen, D. Trapnell, J. Hamrick, O. Rocha, P. Smouse, and T. C. Glenn. 2007. Isolation and characterization of microsatellite loci in the Guanacaste tree, *Enterolobium cyclocarpum*. *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.01896.x
63. Ruiz-Guajardo, J. C., A. Otero-Arnaiz, T. Taylor, G. Stone, T. C. Glenn, N. A. Schable, J. T. Miller, S. Preuss, and A. Schnabel. 2007. Isolation of polymorphic microsatellite markers in the sub-Saharan tree, *Acacia (Senegalia) mellifera* (Fabaceae: Mimosoideae). *Molecular Ecology Notes* 7:1138-1140. doi: 10.1111/j.1471-8286.2007.01809.x
62. Tsyusko, O., T. D. Tuberville, M. B. Peters, N. Crawford, C. Hagen, S. Weller, A. Sakai, and T. C. Glenn. 2007. Microsatellite markers isolated from polyploid woodsorrell (*Oxalis alpina*). *Molecular Ecology Notes* 7:1284-1286. doi: 10.1111/j.1471-8286.2007.01856.x
61. Hill, C. E., S. Tomko, C. Hagen, N. A. Schable, and T. C. Glenn. 2007. Novel microsatellite markers for the saltmarsh sharp-tailed sparrow, *Ammodramus caudacutus*. *Molecular Ecology Notes*. doi: 10.1111/j.1471-8286.2007.01885.x; doi: 10.1111/j.1471-8286.2007.02018.x
60. Crispo, E., C. Hagen, T. C. Glenn, G. Geneau, and L. J. Chapman. 2007. Isolation and characterization of tetranucleotide microsatellite markers in a mouth-brooding haplochromine cichlid fish (*Pseudocrenilabrus multicolor victoriae*) from Uganda. *Molecular Ecology Notes* 7:1293-1295. doi: 10.1111/j.1471-8286.2007.01859.x
59. Fokidis, H. B., T. S. Risch, and T. C. Glenn. 2007. Reproductive and resource benefits to large female body size in a mammal with female-biased sexual size dimorphism. *Animal Behavior* 73:479-488.
58. Tsyusko, O., M. B. Peters, T. D. Tuberville, C. Hagen, S. M. Eppley and T. C. Glenn. 2007. Microsatellite markers isolated from saltgrass (*Distichlis spicata*). *Molecular Ecology Notes* 7:883-885. doi: 10.1111/j.1471-8286.2007.01737.x
57. Peters, M. B., J. L. Glenn, P. Svete, C. Hagen, O. V. Tsyusko, P. DeCoursey, M. Lieutenant-Gosselin, D. Garant, and T. C. Glenn. 2007. Development and characterization of microsatellite loci in the

- eastern chipmunk (*Tamias striatus*). *Molecular Ecology Notes* 7:877-879. doi: 10.1111/j.1471-8286.2007.01735.x
56. Tsyusko, O. V., M. B. Peters, C. Hagen, T. D. Tuberville, T. A. Mousseau, A. P. Møller and T. C. Glenn. 2007. Microsatellite markers isolated from barn swallows (*Hirundo rustica*). *Molecular Ecology Notes* 7:833-835. doi: 10.1111/j.1471-8286.2007.01719.x
 55. Tsyusko, O. V., Y. Yi, D. Coughlin, D. Main, R. Podolsky, T. G. Hinton, and T. C. Glenn. 2007. Radiation-induced untargeted germline mutations in Japanese Medaka. *Comparative Biochemistry & Physiology Part C* 145: 103-110. [doi:10.1016/j.cbpc.2006.08.010; online 2006]
 54. Stepanauskas, R., T. C. Glenn, C. H. Jagoe, R. C. Tuckfield, A. H. Lindell, C. J. King, and J V. McArthur. 2006. Coselection for microbial resistance to metals and antibiotics in freshwater mesocosms. *Environmental Microbiology* 8(9):1510-1514.
 53. Tsyusko, O. V., M. H. Smith, T. K. Oleksyk, J. Goryanaya, and T. C. Glenn. 2006. Genetics of cattails in radioactively contaminated areas around Chernobyl. *Molecular Ecology* 15:2611-2625.
 52. Peles, J. D., T. C. Glenn, H. A. Brant, A. K. Wall, and C. H. Jagoe. 2006. Mercury concentrations in largemouth bass (*Micropterus salmoides*) from five South Carolina reservoirs. *Water, Air, & Soil Pollution* 173: 151-162.
 51. Mullen, L. M., R. J. Hirschmann, K. L. Prince, T. C. Glenn, M. J. Dewey, and H. E. Hoekstra. 2006. Sixty polymorphic microsatellite markers for the oldfield mouse developed in *Peromyscus polionotus* and *P. maniculatus*. *Molecular Ecology Notes* 6:36-40.
 50. Korfanta, N. M., D. B. McDonald, and T. C. Glenn. 2005. Burrowing owl (*Athene cunicularia*) population genetics: a comparison of North American forms and migratory habits. *The Auk* 122(2): 464-478.
 49. Croshaw, D. A., N. A. Schable, M. B. Peters, and T. C. Glenn. 2005. Isolation and characterization of microsatellite DNA loci from *Ambystoma* salamanders. *Conservation Genetics* 6:473-479.
 48. Tsyusko, O. V., M. H. Smith, R. R. Sharitz, and T. C. Glenn. 2005. Genetic and clonal diversity of two cattail species, *Typha latifolia* and *T. angustifolia* (*Typhaceae*) from Ukraine. *American Journal of Botany* 92(7):1161-1169.
 47. Comer, C. E., J. C. Kilgo, G. J. D'Angelo, T. C. Glenn and K. V. Miller. 2005. Fine-scale genetic structure and social organization in female white-tailed deer. *Journal of Wildlife Management* 69:332-344.
 46. Stepanauskas, R., T. C. Glenn, C. H. Jagoe, R. C. Tuckfield, A. H. Lindell, and J V. McArthur. 2005. Elevated microbial tolerance to metals and antibiotics in metal-contaminated industrial environments. *Environmental Science and Technology*. 39:3671-3678.
 45. Faircloth, B. C., A. Reid, T. Valentine, S. H. Eo, T. M. Terhune, T. C. Glenn, W. E. Palmer, C. J. Nairn, and J. P. Carroll. 2005. Tetranucleotide, trinucleotide, and dinucleotide loci from the bobcat (*Lynx rufus*). *Molecular Ecology Notes* 5:387-389.
 44. Otero-Arnaiz, A., A. Schnabel, T.C. Glenn, N.A. Schable, C. Hagen, and L. Ndong. 2005. Isolation and characterization of microsatellite markers in the East African tree, *Acacia brevispica* (Fabaceae: Mimosoideae). *Molecular Ecology Notes* 5: 366-368.
 43. Sawyer, R. H., T. C. Glenn, J. O. French, and L. W. Knapp. 2005. Developing antibodies to synthetic peptides based on comparative DNA sequencing of multigene families. *Methods in Enzymology* 395:636-652.
 42. Glenn, T. C. and N. A. Schable. 2005. Isolating microsatellite DNA loci. *Methods in Enzymology* 395:202-222.

41. Hauswaldt, J. S. and T. C. Glenn. 2005. Population genetics of the diamondback terrapin (*Malaclemys terrapin*). *Molecular Ecology* 14:723-732.
40. Sawyer, R. H., L. Rogers, L. Washington, T. C. Glenn and L. W. Knapp. 2005. The evolutionary origin of the feather epidermis. *Developmental Dynamics* 232(2):256-267.
39. Weston, J. L., N. A. Schable, and T. C. Glenn. 2004. Characterization of six microsatellite primers for the gray fox (*Urocyon cinereoargenteus*). *Molecular Ecology Notes* 4:503-505.
38. Schable, N. A., B. C. Faircloth, W. E. Palmer, J. P. Carroll, L. W. Burger, L. A. Brennan, C. Hagen, and T. C. Glenn. 2004. Tetranucleotide and dinucleotide microsatellite loci from the northern bobwhite (*Colinus virginianus*). *Molecular Ecology Notes* 4:415-419.
37. Koopman, M. E., N. A. Schable, and T. C. Glenn. 2004. Development and optimization of microsatellite DNA primers for boreal owls (*Aegolius funereus*). *Molecular Ecology Notes* 4:376-378.
36. Tomasulo-Seccomandi, A. M., N. A. Schable, A. L. Bryan Jr., I. L. Brisbin Jr., S. N. Del Lama, and T. C. Glenn. 2003. Development of microsatellite DNA loci from the wood stork (*Mycteria americana*). *Molecular Ecology Notes* 3:563-566.
35. Croshaw, D. A. and T. C. Glenn. 2003. Polymorphic tetranucleotide microsatellite DNA loci from the southern dusky salamander (*Desmognathus auriculatus*). *Molecular Ecology Notes* 3:623-625.
34. Fokidis, H.B., N. A. Schable, C. Hagen, T. C. Glenn, and T. S. Risch. 2003. Characterization of microsatellite DNA loci for the southern flying squirrel (*Glaucomys volans*). *Molecular Ecology Notes* 3:616-618.
33. Tsyusko-Omeltchenko, O. V., N. A. Schable, M. H. Smith and T. C. Glenn. 2003. Microsatellite loci isolated from narrow-leaved cattail *Typha angustifolia*. *Molecular Ecology Notes* 3:535-538.
32. Croshaw, D. A. and T. C. Glenn. 2003. Seven polymorphic microsatellite DNA loci from the red-spotted newt (*Notophthalmus viridescens*). *Molecular Ecology Notes* 3:514-516.
31. Staton, J. L., B. E. Taylor, N. V. Schizas, R. Wetzer, T. C. Glenn, and B. C. Coull. 2003. Mitochondrial gene diversity of *Skistodiaptomus mississippiensis* in impoundments of the Upper Coastal Plain near Aiken, South Carolina, USA. *Archiv für Hydrobiologie* 158(2):215-231.
30. Sawyer, R. H., L. D. Washington, B. A. Salvatore, T. C. Glenn, and L. W. Knapp. 2003. Origin of avian epidermal appendages: The bristles of the wild turkey beard express feather-type β keratins. *Journal of Experimental Zoology (Molecular Development and Evolution)* 297B:27-34.
29. Hauswaldt, J. S. and T. C. Glenn. 2003. Microsatellite DNA loci from the Diamondback terrapin (*Malaclemys terrapin*). *Molecular Ecology Notes* 3:174-176.
28. Sawyer, R. H., B. A. Salvatore, T. F. Potylicki, J. O. French, T. C. Glenn, and L. W. Knapp. 2003. Origin of feathers: Feather beta (β) keratins are expressed in discrete epidermal cell populations of embryonic scutate scales. *Journal of Experimental Zoology (Molecular Development and Evolution)* 295B:12-24.
27. Krizek, B. A., V. Probst, R. M. Joshi, T. Stoming, and T. C. Glenn. 2003. Developing transgenic Arabidopsis plants to be metal-specific bioindicators. *Environmental Chemistry and Toxicology* 22(1): 175-181.
26. Korfanta, N. M., N. A. Schable, and T. C. Glenn. 2002. Isolation and characterization of microsatellite DNA primers in burrowing owl (*Athene cunicularia*). *Molecular Ecology Notes* 2(4): 584-585.
25. Schable, N. A., R. U. Fischer, and T. C. Glenn. 2002. Tetranucleotide microsatellite DNA loci from the dollar sunfish (*Lepomis marginatus*). *Molecular Ecology Notes* 2(4): 509-511.

24. Davis L. M., T. C. Glenn, D. C. Strickland, L. J. Guillette, Jr., R. M. Elsey, W. E. Rhodes, H. C. Dessauer, and R. H. Sawyer. 2002. Microsatellite DNA analyses support an east-west phylogeographic split of American alligator populations. *Journal of Experimental Zoology (Molecular Development and Evolution)* 294(4): 352-372.
23. Glenn, T. C., J. L. Staton, A. Vu, L. M. Davis, J. R. Alvarado Bremer, W. H. Rhodes, I. L. Brisbin Jr., and R. H. Sawyer. 2002. Low mitochondrial DNA variation among American alligators and a novel non-coding region in crocodylians. *Journal of Experimental Zoology (Molecular Development and Evolution)* 394(4): 312-324.
22. Dessauer H. C., T. C. Glenn, and L. D. Densmore. 2002. Studies on the molecular evolution of the crocodylia: footprints in the sands of time. *Journal of Experimental Zoology (Molecular Development and Evolution)* 294(4): 302-311.
21. Jones, K. L., T. C. Glenn, R. C. Lacy, J. R. Pierce, N. Unruh, C. M. Mirande, and F. Chavez-Ramirez. 2002. Refining the Whooping Crane studbook by incorporating microsatellite DNA and leg banding analyses. *Conservation Biology* 16(3): 789-799.
20. Glenn, T. C., J. E. Thompson, B. M. Ballard, J. A. Roberson, J. O. French. 2002. Mitochondrial DNA variation and subspecific status of mid-continent gulf coast sandhill cranes. *Journal of Wildlife Management* 66(2): 339-348.
19. Prince, K. L., T. C. Glenn, and M. J. Dewey. 2002. Cross-species amplification among peromyscines of new microsatellite DNA loci from the oldfield mouse (*Peromyscus polionotus subgriseus*). *Molecular Ecology Notes* 2(2): 133-136.
18. Rotstein, D. S., T. R. Schoeb, L. M. Davis, T. C. Glenn, B. S. Arnold, and T. S. Gross. 2002. Detection by microsatellite analysis of early embryonic mortality in an alligator population in Florida. *Journal of Wildlife Diseases* 38(1): 160-165.
17. Oleksyk, T. K., S. P. Gashchak, T. C. Glenn, C. H. Jagoe, J. D. Peles, J. R. Purdue, O. V. Tsyusko, O. O. Zalisky, and M. H. Smith. 2002. Distribution of ¹³⁷Cs in fish and mammal populations. *Journal of Environmental Radioactivity* 61(1): 55-74.
16. Brown, M. C. L., S. Guttman, and T. C. Glenn. 2001. Development and use of microsatellite DNA loci for genetic ecotoxicological studies of the fathead minnow (*Pimephales promelas*). *Ecotoxicology* 10(4): 233-238.
15. Davis, L. M., T. C. Glenn, H. C. Dessauer, R. M. Elsey, and R. H. Sawyer. 2001. Multiple paternity in the American alligator, *Alligator mississippiensis*. *Molecular Ecology* 10(4): 1011-1024.
14. Kind, J. A., R. N. Winn, M. E. T. I. Boerrigter, C. H. Jagoe, T. C. Glenn, and C. E. Dallas. 2001. Investigation of the radioadaptive response in brain and liver of pUR288 *lacZ* transgenic mice. *Journal of Toxicology and Environmental Health, Part A*, 63(3): 207-220.
13. Plague, G. R., M. Mulvey, T. C. Glenn, and J V. McArthur. 2001. Molecular genetic markers provide no evidence for reproductive isolation among retreat building phenotypes of the net-spinning caddisfly *Macrostemum carolina*. *Molecular Ecology* 10(1): 243-248.
12. Davis, L. M., T. C. Glenn, R. M. Elsey, I. L. Brisbin Jr., W. E. Rhodes, H. C. Dessauer and R. H. Sawyer. 2001. Genetic structure of six populations of American alligators: A microsatellite analysis. Pages 38-50 *In* *Crocodylian Biology and Evolution*, G. C. Grigg, F. Seebacher, and C. E. Franklin (eds.), Surrey Beatty and Sons., Australia.
11. Sawyer, R. H., T. C. Glenn, J. O. French, B. Mays, R. B. Shames, G. L. Barnes Jr., W. Rhodes and Y. Ishikawa. 2000. The expression of beta keratins in the epidermal appendages of reptiles and birds: The Beta Keratins of claws, scales and feathers. *American Zoologist* 40(4): 530-539.
10. Glenn, T. C., W. Stephan, and M. J. Braun. 1999. Effects of a population bottleneck on Whooping Crane mitochondrial DNA variation. *Conservation Biology* 13:1097-1107.

9. Winker, K., T. C. Glenn, and G. R. Graves. 1999. Dinucleotide microsatellite loci in a migratory wood warbler (Parulidae: *Limnothlypis swainsonii*), and amplification among other songbirds. *Molecular Ecology* 8(9):1553-1556.
8. Glenn, T. C., H. D. Dessauer, and M. J. Braun. 1998. Characterization of microsatellite DNA loci in American alligators. *Copeia* 1998(3):591-601.
7. Glenn, T. C., R. S. Ojerio, W. Stephan, and M. J. Braun. 1997. Microsatellite DNA loci for genetic studies of cranes. pages 36-45 In Proceedings of the 7th North American Crane Workshop. R. P. Urbanek and D.W. Stahlecker, eds. North American Crane Working Group, Grand Island, Nebraska. 262pp.
6. Glenn, T. C., W. Stephan, H. D. Dessauer, and M. J. Braun. 1996. Allelic diversity in alligator microsatellite loci is negatively correlated with GC content of flanking sequences and evolutionary conservation of PCR amplifiability. *Molecular Biology and Evolution* 13(8): 1151-1154.
5. Smith, D. R. and T. C. Glenn. 1995. Allozyme polymorphisms in Spanish honeybees (*Apis mellifera iberica*). *Journal of Heredity* 86(1):12-16.
4. Glenn, T. C. and S. J. Glenn. 1994. Rapid elution of DNA from agarose gels using polyester plug spin inserts (PEPSIs). *Trends in Genetics* 10(10):344.
3. Glenn, T. C., D. R. Waller and M. J. Braun. 1994. Increasing proportions of uracil in DNA substrates increases inhibition of restriction enzyme digests. *BioTechniques* 17(6):1086-1090.
2. Glenn, T. C. and D. R. Smith. 1993. Genetic variation and subspecific relationships of Michigan elk (*Cervus elaphus*). *Journal of Mammalogy* 74(3): 782-792.
1. Glenn, T. C. and W. R. Clark. 1990. Correlation of raccoon pelt qualities with age, sex, and physical condition. *Journal of the Iowa Academy of Sciences* 97(1):33-35.

Books or Journals

- Andrews, R. D., N. Bock, W. Funke, T. Glenn, R. Goode, M. Long, M. O'Connor, M. Sells, and D. Sievers. 1993. Iowa fur harvester education: student manual. Iowa Department of Natural Resources, Des Moines, IA. 147pp.
- Densmore, L. D. and T. C. Glenn (guest eds). 2002. Special Issue: Molecular Evolution of the Crocodylia. *Journal of Experimental Zoology (Molecular and Developmental Evolution)* Vol. 295, No. 4.

Other publications (not peer reviewed)

- Dueck, L. A., J. A. Fowler, C. S. Hagen, and T. C. Glenn. 2005. Genetic discrimination of *Spiranthes cernua* species complex in South Carolina. Proceedings of the 2nd International Orchid Conservation Congress, Sarasota, Florida. *Selbyana* 26(1,2): 145-154.
- Glenn, T. C. 2002. DNA tools and resources for crocodylian research. P211 *In* Proceedings of the 16th Working Meeting of the Crocodile Specialist Group of the Species Survival Commission of IUCN – The World Conservation Union, Gland, Switzerland.
- Oleksyk T.K., M. H. Smith, T. C. Glenn, J. R. Purdue, C. H. Jagoe, and M. W. Smith. 2002. Radioactivity and Genetic Diversity in Populations of *Apodemus flavicollis* from Chernobyl, Ukraine. International Radioactivity Conference, Monaco.
- Jagoe, C. H., A. J. Majeske, T. K. Oleksyk, T. C. Glenn, and M. H. Smith. Radiocesium concentrations and DNA strand breakage in two species of amphibians from the Chernobyl exclusion zone. Proceedings of the International Congress on the Radioecology and Ecotoxicology of Continental and Estuarine Environments, September, 2001, Aix en Provence, France.

Oleksyk, T., S. Gashchak, T. Glenn, C. Jagoe, J. Purdue, O. Tsyusko, O. Zalisky, and M. Smith. 2001. Distribution of ¹³⁷Cs among individuals in fish and mammal populations in Chernobyl. Pp. 431-440. In: V. Glygalo and A. Nosovsky (eds.). Scientific and Technical Aspects of International Cooperation in Chernobyl. Vyscha shkola, Kyiv.

Glenn, T. C. and M. J. Braun. 1992. Toward the elimination of contamination from ancient DNA amplifications: use of 2'-Deoxyuridine-5'-triphosphate and Uracil DNA Glycosylase to eliminate carryover PCR products. Ancient DNA Newsletter. 1(2):28-31.

Glenn, T. C. 1991. Animal rights and animal welfare are not equivalent. Conservation Biology 5(4):436-437.

Electronically Available Information

SREL DNA Lab: <http://baddna.srel.edu/>

Microsatellite Information:

<http://www.uga.edu/srel/Microsat/Microsat-L.htm>

<http://gator.biol.sc.edu/Msats/Microsatellites.html>

http://www.uga.edu/srel/Msat_Devmt/Microsatellites--home.htm

Computer Programs: http://www.uga.edu/srel/DNA_Lab/programs.htm

Laboratory Protocols: http://www.uga.edu/srel/DNA_Lab/protocols.htm

Crocilian DNA Information Repository: http://www.uga.edu/srel/CrocDNA_Web/CrocDNAindex.htm

RESEARCH GRANTS AND CONTRACTS

Active Grants

Collaborative Research: The Evolution of Heterostylous Breeding Systems in Populations of Oxalis alpina in the Sky Islands of the United States and Mexico. National Science Foundation (DEB 0614208 – Pop & Evol cluster), T. C. Glenn (& O. Tsyusko); \$140,363, 10/06 – 10/09; in collaboration with S. Weller & A. Sakai \$357,920

The bioavailability, toxicity, and trophic transfer of manufactured ZnO nanoparticles: a view from the bottom. USEPA-NCER and NSF-NIOSH Nanotechnology Research Grants Investigating Environmental and Human Health Effects of Manufactured Nanomaterials B. Jackson, A. Neal, T. Glenn, P. Williams, and P. Bertsch. \$363,380. 10/05 – 9/08.

Transgenerational Effects of Chronic Low-Dose Irradiation in a Medaka Fish Model System, U.S. Dept. of Energy Low Dose Program. JD Zimbrick, TG Hinton, TC Glenn, H. Mitani, R Ullrich, J Bedford, and M Weil. \$1,033,705.00 total Direct Costs; \$365,846 SREL subcontract; 8/05 – 7/08.

Bioavailability of Metals in Two Former Ash Settling Basins from Coal-fired Power Plants: Capping vs. Natural Attenuation. Georgia Power. PL Williams, B Jackson, C Jagoe, and T Glenn. \$300,000; 01/05 – 12/07.

The role of metal contamination in the proliferation of antibiotic resistance in coastal water-borne pathogens. NOAA – Oceans and Human Health Program, R Stepanauskus, JV McArthur, TC Glenn, CH Jagoe, ME Frischer JA Gooch, and C Tuckfield. \$534,311; 10/04 – 9/07.

*Development of *Peromyscus* (Deer Mouse) Genomics.* National Institutes of Health. MJ Dewey, TC Glenn, R Bullard-Dillard, and J Chen. \$1,180,000; SREL subcontract ~\$125,000/yr. 8/1/04-7/30/08.

Genetic Effects of Radiation Exposure on Amphibian Populations from Chernobyl Exclusion Zone, U.S. Civilian Research and Development Foundation, Cooperative Grants Program. ~\$59,000. M. Bondarkov, O. Tsyusko, & T. C. Glenn.

Proposal to Sequence the First Reptilian Genome: the Green Anole Lizard, Anolis carolinensis. J. Losos et al., submitted 07/05. National Human Genome Research Institute. Project cost ~\$35M. Anolis assigned High priority 09/05, shotgun sequencing completed, 1st draft assembly completed January 2007; 2nd reptilian (Painted Turtle) assigned high priority 10/06; Alligator genome white paper to be submitted in July 2007.

Effects of Low Dose Radiation on Gene Expression in Medaka Fish. US Department of Energy Joint Genome Institute Laboratory Sequencing Program. TC Glenn, OV Tsyusko, TG Hinton, D Grigoriev, OV Moskalenko, and J Zimbrick. 90,000 ESTs and >1,200,000 454 sequences approved. June 07- May 08.

Gene Expression Resources for Peromyscus. US Department of Energy Joint Genome Institute Laboratory Sequencing Program. T Glenn, G Szalai, J Glenn, M Felder, et al. 100,000 ESTs approved. June 07- May 08.

Research Grants in Review

Molecular genetic insights into propagule parentage during tropical forest succession, National Science Foundation. C Peterson, J Hamrick, and T Glenn.

Previous Research Awards

Species Identification and Conservation Genetics of Moxostoma robustum : Molecular Genetic Protocol Development and Application. Georgia Power Co. C.J. Nairn & T. C. Glenn. \$48,970. 3/06 – 02/07.

Radioactive Contaminants, Antioxidants, and Mutation: A Comparative Analysis of Birds, Flies and Humans of Chernobyl. University of South Carolina Environmental Research Initiative Committee, TA Mousseau et al. \$39,776.

DNA research to support management of American alligators in Louisiana. Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division, TC Glenn. \$30,000. 7/1/03-6/30/06.

Molecular Phylogeny of North American Spiranthes Orchids. American Orchid Society. L Dueck, TC Glenn and C Hagen. \$6,450; 01/04-12/05.

Peromyscus Laboratory Models for Biomedical Research. National Institutes of Health, MJ Dewey, W Dawson, and T Glenn. \$541,875; 7/02 – 6/05; renewed through 04/06.

Development and Use of Transgenic Caenorhabditis elegans to Measure Bioavailability of Metals and Mutagenicity in Contaminated Media. Idaho National Environmental and Engineering Laboratory, LDRD program. A Stormberg, PL Williams, CH Jagoe and TC Glenn, SREL subcontract \$22,100; 01/01/04 – 9/31/04.

BAC Library Resource Proposal – Peromyscus maniculatus. National Institutes of Health, MJ Dewey and TC Glenn. Assigned High Priority, 9/03; BAC Library - CHORI-233.

Use of the Diamondback Terrapin (Malaclemys terrapin) as a biological indicator for chemical pollution of South Carolina estuaries. National Oceanic and Atmospheric Administration – T Glenn and SJ Hauswaldt \$49,500; 6/01 – 9/04.

The Peromyscus Genome Project: Development of a Core Research Group. South Carolina Biomedical Research Infrastructure Network- Collaborative Research Program, MJ Dewey, R Bullard-Dillard, and T Glenn. \$75,000; 5/03 – 8/04.

Developing a cDNA Library for American Alligators. University of Georgia Research Foundation, Faculty Research Grant. TC Glenn \$7,128. 1/03 – 1/04.

A quantitative approach to risk assessment: analysis of genetic changes in organisms inhabiting contaminated environments. PI - R. Sawyer, Department of Energy - \$228,387, 1997 – 2002.

Development of Bioindicators of Environmental Mutagens. South Carolina Commission on Higher Education. PI - Beth Krizek, Co-investigators – T. Glenn. & C. Jagoe. \$85,010 funded. Jan. 2000 – June 2001.

Investigation of Sandhill Crane subspecies. Texas A&M Kingsville - \$16,500. 1997-2001. PI

A proposal to determine contaminant burdens and DNA strand-breakage in clapper rails inhabiting the Troup Creek and LCP salt marsh systems, Brunswick, GA; funded at \$56,325 by the US Fish and Wildlife Service; with PI - I. Lehr Brisbin, SREL.

Development of a Bioindicator of Environmental Mutagens. University of South Carolina - Carolina Venture Fund. With B. Krizek as P.I. \$9,000. May 1999 - August 2000.

Laboratory for the Genetic Diagnosis and Control of Mosquitoes. PI – R. Vogt, Co-PI's J. Quattro, T. Glenn, R. Wilkerson. Department of Defense - \$500,000, 1997 - 2000

Promega Corporation - \$5,000 for Whooping Crane research, 1997 - 1998

National Fish and Wildlife Federation - \$12,100 for Whooping Crane research, 1997 – 1998

National Science Foundation - \$10,800 for Whooping Crane research, 1994 - 1996

Smithsonian Institution - Pre-Doctoral Visiting Student Fellowships for Whooping Crane research 1992 – 1996

Nixon Griffis Fund for Zoological Research - \$3,000 for Red Panda research

Sussman Foundation - \$3,000 for Michigan elk research

Rackham Graduate School (Univ. of MI) - \$600 for Michigan elk research

School of Natural Resources (Univ. of MI) - \$500 for Michigan elk research

Iowa State Honors Program - \$300 for raccoon research

SYMPOSIA AND/OR WORKSHOPS ORGANIZED

International workshop – “Exploring Potential Collaborative Research in Human Health and Ecotoxicology Risks Using Medaka as a Model Organism”, 24-27 March 2004, University of Georgia, T. G. Hinton, T. C. Glenn, and R. N. Winn, organizers.

2nd International Crocodylian DNA workshop, 7-9 November, 2001. San Diego Zoo, San Diego, CA. Valentine A. Lance, Llewellyn D. Densmore, Lisa M. Davis, and Travis C. Glenn, organizers.

PRESENTATIONS

Invited Talks (last 10 years)

Glenn, T. C. and J. L. Weston. Genomics of non-traditional biomedical models: Alligators, Anolis, and Peromyscus. Coastal Carolina University, 20 October 2006.

Glenn, T. C. Reptilian Genomics: Background and where we're going next. University of Canberra, Australia, 19 May 2006.

Glenn, T. C. Reptilian Genomics: from multiple paternity to feathered alligators. University of Sydney, Australia, 10 May 2006.

Glenn, T. C. Emerging resources and opportunities for non-traditional biomedical model organisms: Alligators, Medaka, and Peromyscus. Department of Biological Sciences Seminar Series, Univ. of South Carolina, Columbia, 17 October, 2005.

Glenn, T. C. Solving conservation problems with DNA technologies: Genetic studies of Alligators, Red Pandas, and Whooping Cranes. Warnell School of Forest Resources Seminar Series, UGA, Athens, GA, 13 October, 2005.

Glenn, T. C. New animal models to study bioavailable metals and mutation rates. Fort Johnson Marine Science Seminar Series, Charleston, SC. 16 September, 2005.

Glenn, T. C. New approaches to estimate bioavailable metals and mutation rates. Department of Environmental Health Sciences, University of South Carolina, Columbia, SC. 2 September, 2005.

Glenn, T. C. American alligators, red pandas, and whooping cranes as models in conservation genetics. Anhui Normal University, Wuhu, China, 29 August 2004.

Glenn, T. C. Genomic tools for the conservation of crocodylians. 19th International Congress of Zoology, Beijing, China, 25 August, 2004.

Glenn, T. C. Microsatellite DNA loci. Workshop on Exploring Potential Collaborative Research in Human Health and Ecotoxicology Risks Using Medaka as a Model Organism. University of Georgia, 25 March, 2004.

- Glenn, T. C.* Alligators, *C. elegans*, and Whooping Cranes as models for genetic risks and genotoxicology. Benedict College, 22 March, 2004.
- Glenn, T. C.* Estimating mutation rates in vertebrate genomes: experimental approaches and bioinformatics opportunities. South Carolina BRIN BioInformatics Meeting, 15 March, 2004.
- Glenn, T. C.* Alligators, Red Pandas, and Whooping Cranes as models for genetic risks and genotoxicology. Coastal Carolina University, 18 February, 2004.
- Glenn, T. C.* Linking legacies: Using Alligators, Red Pandas, and Whooping Cranes to understand genetic risks and genotoxicology. Wofford College, 6 November, 2003.
- Glenn, T. C.* Genetic tools for the conservation and management of Alligators, Red Pandas, and Whooping Cranes. Tall Timbers, 11 April 2003.
- Glenn, T. C.* Assessing genetic impacts of environmental contaminants on the Savannah River Site: antibiotic resistance in bacteria, microsatellite mutations in alligators, and new transgenic biomonitors. Bioscience Division, Los Alamos National Lab, 8 March, 2002.
- Glenn, T. C.* Modern Conservation Genetics: Tools to Really Help Endangered Species? Western Carolina University, 6 October, 2000.
- Glenn, T. C.* Modern Molecular Genetic Tools in Conservation Genetics: Serious Help or Squandered Resources? Texas Tech University, April, 2000.
- Glenn, T. C.* DNA workshop for South Carolina State Law Enforcement Division – Forensics section. Columbia, South Carolina. March, 2000.
- Glenn, T. C.* 1999. Using DNA to Save an Endangered Species. Earth Day presentation at the National Science Center, Fort Discovery; Augusta, GA, 24 April.
- Glenn, T. C.* 1999. Alligators to Whooping Cranes: Development & Use of Molecular Genetic Techniques to Investigate & Solve Environmental Problems. Department of Biology, University of South Carolina Aiken, 26 February.
- Glenn, T.C.* and H.C. Dessauer. 1998. Genetic variation of American alligators. Crocodylian Biology and Evolution Conference, Univ. of Queensland, Brisbane, Australia
- Glenn, T. C.* 1997. Mitochondrial and microsatellite DNA markers for Whooping Cranes. 115th Annual Meeting of the American Ornithologist's Union, Minneapolis, MN.
- Glenn, T. C.* 1996. Microsatellite DNA markers in endangered vertebrates: milestone or millstone? Massey University, Palmerston North, New Zealand.
- Glenn, T. C.* 1996. Development and use of mitochondrial and microsatellite DNA markers for studies of closely related taxa. U.N.A.M. Mexico City, Mexico.
- Glenn, T. C.*, H. C. Dessauer, W. Stephan, and M. J. Braun. 1996. Microsatellite DNA loci for genetic studies of crocodylians, Crocodylian DNA Workshop, Riverbanks Zoo, Columbia, SC.

Presentations at Meetings (last 5 years)

- Glenn, TC.* Reptilian Genomics: Status and Resources. Evolution 2005, Society for the Study of Evolution, Fairbanks, Alaska. June 2005.
- Glenn, T. C.* Genomic resources for American alligators. 1st meeting of the Reptilian Genomics Working Group, Washington University Genome Sequencing Center, Saint Louis, MO, April, 2005.
- Glenn, TC.* Crocodylian Genome Projects: Status and Resources. 17th Working Meeting of the UICN-SSC Crocodile Specialist Group. Darwin, Northern Territory of Australia. May 2004.
- Glenn, T. C.* DNA tools and resources for crocodylian research. 16th Working Meeting of the Crocodile Specialist Group, Gainesville, FL, October, 2002.
- Glenn, T. C.* Genetic variation in American alligators: Wherefore art thou? 2nd International Crocodylian DNA Workshop, San Diego, CA. 8 November, 2001.
- Glenn TC*, Dueck LA, Schable NA, Dever J. Mitochondrial DNA variation among captive red pandas. Southeastern Population Ecology and Genetics Group (SEEPAGE), Danville, NC. September, 2001.
- Jago CH, *Glenn TC*, Majeske A, Smith MH. Radiocesium in two species of frogs (*Rana esculenta*, *R. terrestris*) collected near Chernobyl, Ukraine. SETAC, Nashville, TN. November, 2000.
- Glenn, T. C.*, L. M. Davis, D. R. Strickland, I. L. Brisbin Jr., and R. H. Sawyer. Direct assessment of mutation rate using microsatellite DNA loci. Southeastern Society of Toxicology, Athens, GA, 19 October, 2000.

Co-authored Presentations (last 5 years – presenter in italics)

- Winn, RN*, A. J. Majeske, C. H. Jagoe, M. W. Norris, M. H. Smith, and T. C. Glenn. Lambda Transgenic medaka as a new model for germline mutagenesis. 37th Annual Meeting of the Environmental Mutagen Society, Vancouver, BC, Canada. September 2006.
- O. Tsyusko, K. Aizawa, E. Thompson, Yi Yi, Dan Coughlin, T. Hinton, and T. Glenn*. 6/06. Germ-line mutations at tandem repeat loci in Japanese medaka. Evolution 2006, Society for the Study of Evolution, Stony Brook, NY.
- Dueck L*, Cameron K, Hagen C, Glenn T. 6/06. Trees and tresses: the *Spiranthes* phylogeny (invited talk). Native Orchid Conference, Ashland, OR
- Tsyusko OV*, Glenn TC, Yi Y, Hinton T. 6/05. Radiation-induced untargeted germ line mutations in Japanese medaka (*Oryzias latipes*). Evolution 2005, Society for the Study of Evolution, Fairbanks, AK.
- Williams PL, Graves AL, Humphries S, Krizek BA, *Jagoe CH*, Stormberg A, Glenn TC. Bioavailability of metals assessed with mtl-2::GFP transgenic *C. elegans*. Society of Environment Toxicology and Chemistry - 4th SETAC World Congress and 25th Annual Meeting in North America. Portland, Oregon, November 2004.
- Glenn TC, Graves AL, Humphries S, Krizek BA, Jagoe CH, Stormberg A, *Williams PL*. Direct assessment of mutagenicity using GFP transgenic *C. elegans*. Society of Environment Toxicology and Chemistry - 4th SETAC World Congress and 25th Annual Meeting in North America. Portland, Oregon, November 2004.
- Stepanauskas R*, Glenn TC, Jagoe CH, Tuckfield RC, Lindell AH, King CJ, and McArthur, JV. Selection for antibiotic-resistant bacterioplankton by exposure to toxic metals. American Society for Limnology and Oceanography 2004 Summer Meeting, Savannah, GA, USA, June 2004.
- Fokidis HB*, Risch T, Glenn TC. Age and body size effects on paternity in a reversely dimorphic mammal. Animal Behavior Society, Oaxaca, Mexico. May 2004.
- Moore, L.*, II. Brisbin, CH Jagoe, RM Elsey, TC Glenn, SB Castleberry and CS Romanek. Distribution of Mercury in the American Alligator (*Alligator mississippiensis*) and Mercury Concentrations in the Species Across the Range. 17th Working Meeting of the UICN-SSC Crocodile Specialist Group. Darwin, Northern Territory of Australia. May 2004.
- Hagen, C* and TC Glenn. Captive Animals with Known Pedigrees Are Needed for Genetic Maps of Crocodilians. 17th Working Meeting of the UICN-SSC Crocodile Specialist Group. Darwin, Northern Territory of Australia. May 2004.
- Schable, NA*, TC Glenn, and RH Sawyer. Crocodilian Gene Hunting with Expressed Sequence Tags (ESTs). 17th Working Meeting of the UICN-SSC Crocodile Specialist Group. Darwin, Northern Territory of Australia. May 2004.
- Dueck LA*, Fowler JA, Hagen CS, Glenn TC. Genetic discrimination of *Spiranthes cernua* species complex in South Carolina (poster). IUCN's 2nd International Orchid Conservation Congress, Sarasota, FL. May 2004.
- Fokidis HB*, Risch T, Glenn TC. Patterns of multiple paternity in the southern flying squirrel. 14th Colloquium on Conservation of Mammals in the Southeastern United States. Warnell School of Forest Resources - University of Georgia, Athens, GA. February, 2004.
- Tsyusko-Omelchenko OV*, Smith MH, Oleksyk TK, Glenn TC. 6/03. Genetic diversity in two *Typha* species from radioactively contaminated area in Ukraine. Society for the Study of Evolution, Chico, CA.
- Hauswaldt, JS* and TC Glenn. 06/03. Population genetics of Diamondback terrapins (*Malaclemys terrapin*) from the US East Coast. Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
- Hauswaldt JS*, Glenn TC. 10/02. Population genetics of diamondback terrapins, *Malaclemys terrapin*, in South Carolina Estuaries. South Eastern Estuarine Research Society, Conway, SC.
- Dueck LA*, Schable NA, Dever JA, Glenn TC. 10/02. Conservation biology and genetics of red pandas (invited seminar). University of South Carolina - Aiken.

- Dueck LA*, Schable NA, Dever JA, Glenn TC. 8/02. Sex behind bars -- do red pandas in captive breeding programs get enough mitochondrial diversity? (invited presentation & participation). Red Panda SSP Management Group Meeting, Smithsonian National Zoological Park, Washington, DC.
- Hauswaldt JS*, Glenn TC. 7/02. Population genetics of diamondback terrapins *Malaclemys terrapin* in South Carolina. Joint meeting of Ichthyologists and Herpetologists, Kansas City, MO
- Dueck LA*, Schable NA, Dever J, Glenn TC. 2/02. Conservation genetics of red pandas (invited seminar). Dept. of Conservation Biology, Smithsonian National Zoological Park, Washington, DC.
- Davis LM*, Glenn TC, Strickland, DC, Elsey RM, Rhodes WE, Brisbin IL Jr, Guillette LJ Jr, Sawyer RH. 11/01. Genetic variation among populations of American alligators. Crocodilian DNA Workshop, San Diego, CA.
- Moore L*, Glenn TC, Brisbin IL Jr. 11/01. A preliminary study of single nucleotide polymorphisms (SNPs) in American alligators. Crocodilian DNA Workshop, San Diego, CA.
- Schable NA*, Davis LM, Glenn TC, Sawyer RH, Arnold BS, Gross TS. 11/01. The third generation of microsatellite DNA loci from American alligators. Crocodilian DNA Workshop, San Diego, CA.
- Strickland DC*, Davis LM, Glenn TC, Elsey RM, Rhodes WE, Dueck LA, Schable NA, Jagoe CH, Brisbin IL Jr, Sawyer RH. 11/01. Direct assessment of mutation rate in American alligators using microsatellite DNA loci. Crocodilian DNA Workshop, San Diego, CA.
- Dueck LA*, Schable NA, Dever J, Glenn TC. 9/01. Conservation genetics of captive red pandas (guest lecture). Conservation biology class of Prof. Juan Bouzat, Bowling Green State University, Bowling Green, OH.
- Hauswaldt JS*, Glenn TC. 9/01. Population genetics of the diamondback terrapin (*Malaclemys terrapin*) in South Carolina. Southeastern Population Ecology and Genetics Group (SEEPAGE), Winston-Salem, NC.
- Glenn TC*, Dueck LA, Schable NA, Dever J. 9/01. Mitochondrial DNA variation among captive red pandas. Southeastern Population Ecology and Genetics Group (SEEPAGE), Winston-Salem, NC.
- Schable NA*, Fischer RU, Glenn TC. 9/01. Mitochondrial DNA and microsatellite variation in dollar sunfish, *Lepomis marginatus*. Southeastern Population Ecology and Genetics Group (SEEPAGE), Winston-Salem, NC.

Posters (last 5 years; presenter in italics)

- Glenn T.*, O. Tsyusko, K. Aizawa, E. Thompson, Y. Yi, D. Coughlin, and T. Hinton. Untargeted germline mutations in Japanese medaka exposed to gamma radiation. 37th Annual Meeting of the Environmental Mutagen Society, Vancouver, BC, Canada. September 2006.
- Tsyusko O.*, Yi Yi, D. Coughlin, T. Glenn, and T. Hinton. Radiation-induced DNA strand breakage in Japanese medaka. Society of Environmental Toxicology and Chemistry, Baltimore, MD, USA, November 2005.
- Tsyusko O.*, T. Glenn, Yi Yi, D. Coughlin and T. Hinton. Radiation-induced untargeted germline mutations in Japanese medaka. Aquatic Models of Human Disease Conference, Athens, GA, USA, October/November, 2005.
- Tsyusko O.*, Yi Yi, D. Coughlin, T. Glenn, and T. Hinton. Timing of repair from radiation-induced DNA strand breakage in bluegill. Aquatic Models of Human Disease Conference, Athens, GA, USA, October/November, 2005.
- Stepanauskas R*, Glenn TC, Jagoe CH, Tuckfield RC, Lindell AH, King CJ, and McArthur, JV. Selection for antibiotic resistance in the environment: The role of toxic metals. 10th International Symposium on Microbial Ecology (ISME-10), Cancun, Mexico, August 2004.
- Stepanauskas R*, Glenn TC, Jagoe CH, Tuckfield RC, Lindell AH, and McArthur, JV. Culture-independent analysis of elevated antibiotic tolerance in toxic metals-contaminated industrial environments. American Society for Microbiology 104th General Meeting, New Orleans, LA, USA, May 2004.
- Stepanauskas R*, Glenn TC, Jagoe CH, Tuckfield RC, Lindell AH, King CJ, and McArthur, JV. Indirect selection for antibiotic resistance in freshwater microcosms amended with toxic metals. American Society for Microbiology 104th General Meeting, New Orleans, LA, USA, May 2004.

- Croshaw DA*, Peters MB, Schable NA, Glenn TC (5 & 6/04). Multiple paternity in marbled salamanders revealed by novel polymorphic microsatellite DNA loci (poster). Joint Meeting - Ichthyologists & Herpetologists, Norman, OK; Animal Behavior Society, Oaxaca, Mexico.
- Glenn TC, Humphries S, *Graves AL*, Jagoe CH, Krizek BA, *Williams PL*. 11/03. Transgenic *C. elegans* to measure bioavailable metals and mutagenicity. Society of Environmental Toxicology and Chemistry, Austin, TX.
- Hauswaldt JS*, White AJ, Glenn TC, Jagoe CH. 09/03. Population genetics and ecotoxicology of the Diamondback terrapin, an estuarine turtle. Estuarine Research Federation, Estuaries on the Edge: Convergence of Ocean, Land and Culture, Seattle, WA.
- Burgess, EA*, Glenn TC, McArthur. 6/03. Gene trees of bacterial mercury resistance genes indicate unique local selection. Society for the Study of Evolution, Chico, CA.
- Schnabel A*, Glenn TC, Schable NA, Hagen C 6/03. Development and cross-species amplification of microsatellite markers in East African acacias. Society for the Study of Evolution, Chico, CA
- Majeske AJ*, Jagoe CH, Glenn TC, Norris MB, Winn RN. 5/03. A new approach to the study of chemically-induced germline mutations using transgenic fish. 12th International Symposium on Pollutant Responses In Marine Organisms (PRIMO) Tampa, FL
- Burgess, EA*, Glenn TC, McArthur. 5/03. An analysis of the diversity of mercury resistance genes in stream sediment bacteria on the Savannah River Site using terminal restriction fragment length polymorphism. American Society of Microbiology. Washington, DC.
- Arnold B*, Sepulveda M, Rotstein D, Gross T, Davis L, Glenn T, and Clark G. 10/02. Use of DNA analysis to study early embryonic mortality in Florida alligators. 16th Working Meeting, Crocodile Specialist Group, Gainesville, FL.
- Davis LM, Strickland DC, Glenn TC, Dueck LA, Schable NA, *Jagoe CH*, Brisbin IL Jr, Sawyer RH. 11/01. Direct assessment of mutation rate in American alligators. SETAC, Baltimore, MD.
- Hauswaldt JS*, Glenn TC. 11/01. Use of Diamondback Terrapins (*Malaclemys terrapin*) as biomonitors for estuarine ecosystems in South Carolina. SETAC, Baltimore, MD.
- Krizek BA*, Prost V, Glenn T. 10/01. Developing transgenic *Arabidopsis* plants to be metal-specific bioindicators. Workshop on Natural Remediation Processes, SREL Conference Center, Aiken, SC.
- Dueck, L., N. Schable, J. Dever, and T. C. Glenn. Gene flow between 'subspecies' of captive red panda – bridging the gap or burning the bridge. Society for Conservation Biology, Hawaii, July, 2001.
- Hauswaldt JS*, Glenn TC. 1/01. Population genetic structure of the diamond-back terrapin, *Malaclemys terrapin centrata*, using microsatellite DNA markers. Society for Integrative and Comparative Biology (SICB), Chicago, IL.
- Dueck LA*, Peles JD, Philippi T, Hoffman C, Majeske A, Glenn TC. 1/01. Factors influencing Pulsed Field Gel Electrophoresis to measure genotoxic effects. SC Statewide Research (Wild Dunes) Conference, Isle of Palms, SC; The Wildlife Society annual meeting, Nashville, TN.
- Jagoe, C. H., A. J. Majeske, T. K. Oleksyk, T. C. Glenn, and *M. H. Smith*. 09/01. Distribution and effects of radiocesium in amphibians from the Chernobyl exclusion zone. International Congress on the Radioecology and Ecotoxicology of Continental and Estuarine Environments, Aix en Provence, France.

Media & Outreach

- Guest Lecture in Genetics and Inheritance, South Aiken High School, ~14 biology classes, November 2005.
- Distance Learning Presentation: Chernobyl: Nuclear Wasteland or Wonderful Wildlife Preserve. Hazelwood and Scribner middle schools, New Albany, Indiana, November, 2005.
- Outreach presentation: Alligators as canaries. Forest Lake Presbyterian Church, Columbia SC. Oct., 2003.
- Interviewed for **Viewpoints**, broadcast on National Public Radio, 2002.
- Presentation on DNA, Fort Jackson, SC, Susan Nash's 5th grade class, February, 2002.
- Distance Learning Seminar: Alligators as Canaries. 3 schools connected, October, 2002.
- Interviewed for **DNA Files**, broadcast on National Public Radio, 2001.
- Filed episode of **Reptile Wild** with Brady Barr for National Geographic TV, 2001.

Presentation on the Chernobyl nuclear accident and current status of exclusion zone to 5 science classes at Streator [Illinois] High School, 2000.

Interviewed for Augusta Chronicle by Rob Pavey, resulted in page 1 cover photo and story of alligator research program at SREL, 2000.

Photographed alligators with National Geographic photographer Peter Essick, 2000.

Dozens of volunteers have been involved with our alligator field work since 1996. Although these volunteers are usually helpful in accomplishing the research, their participation is primarily to fulfill our education and outreach missions.

Hatchling and young alligators from our research program are often used in education and outreach activities. For example, alligators from our research or the SREL outreach program have been used in USC's Behavioral Ecology Class. Students in my group are encouraged to give presentations at schools and 3 students (Lisa Davis, Liberty Moore, & Denise Strickland) have done so repeatedly.

PROFESSIONAL SERVICE

SREL Committees

2003 – present Education Committee, assumed chair 1/05
2001 – present Computer Committee
2000 – 2002; 2006 Strategic Planning Committee
2001 – 2002 Microbial Ecologist Job Search Committee (chair)
2000 – 2001 Spatial Informatics Job Search Committee
1998 – present Seminar Committee
1998 – 2001 Library Committee

Multi-User Facilities

2003, 04, 06 Moved Institute for Biological Research & Training labs at USC
2002 Appointed Associate Director of USC Institute for Biological Research & Training
2002 Integrated the multi-user DNA laboratory with all DNA services in USC Institute for Biological Research & Training
2001 Established a multi-user DNA laboratory at USC
2000 Established fluorescent DNA sequencing and genotyping at SREL
1999 Established a multi-user DNA laboratory at SREL
1998 Contracted to oversee DNA sequencing & genotyping using ABI 377 at USC

Society Activities

Member (invited committee membership in italics)

IUCN - *Crocodylian Specialist Group*
Society for Conservation Biology
Society of Environmental Toxicology and Chemistry
Society for the Study of Evolution
Society for the Study of Amphibians and Reptiles – *Conservation Committee*
Turtle Survival Alliance – *Conservation Genetics Advisor*

Manuscript and Proposal Reviews

American Zoologist
BioTechniques
Canadian Journal of Zoology
Copeia
Conservation Biology
Conservation Genetics
Environmental Toxicology and Chemistry

Evolution
EPSCoR
Journal of Heredity
Journal of Wildlife Management
Molecular Biology and Evolution
Molecular Development and Evolution
NSF – Biology
National Geographic Society
Molecular Ecology
The Auk
The Condor
Trends in Genetics

TEACHING

Applied Ecological Genetics, Ecology 8990 (problems in ecology), University of Georgia, 3 credits.

Developing and leading a reading course for graduate students at SREL (4 students; ~16 additional people attending/auditing), Spring 2004

Microsatellite Workshop, laboratory workshop on the development and use of microsatellite DNA loci; sponsored by the Plant Center, Center for Applied Genetic Technologies, Office of the Vice President of Research, Warnell School of Forest Resources, Department of Plant Biology, and Savannah River Ecology Laboratory; University of Georgia, July 2003.

Graduate Research Instructor (Biol 798), University of South Carolina, Spring, Summer, Fall 2003.

Graduate Research Instructor (Ecol 9000, 9300), University of Georgia, Summer, 2003, Summer & Fall 2004.

Experimental Biotechnology, Biology 656, 4 credits, graduate level laboratory course; University of South Carolina, summer 2000; spring 2001, 2002.

Guest Lecture on effects of radiation in Chemistry in Society (Chem 105), University of South Carolina-Aiken, fall 2001, spring 2002, fall 2002, fall 2003.

Undergraduate Honors Research Instructor (Biol 4990H), University of Georgia, 3 credits, spring 2001.

Guest Lecture in Human Molecular Genetics, University of South Carolina, Spring semester 1998

Teaching Assistantships:

Biology Program, University of Maryland
Introductory Genetics, University of Maryland
Introductory Biology Lab, University of Maryland
Molecular Biology Lab, University of Michigan

Freshman Honors Leader, Iowa State University; Fall semesters 1986 and 1988

Design, research, and development of seminar on contemporary issues in Animal Rights with Dr. William Franklin, Iowa State University; 1988-89.

Laboratory Training, students and volunteers have ranged from high school students to retired volunteers (60+ years of age difference).

Student Mentorships (prior to 1998)

University South Carolina: three undergraduate and two graduate students;
Smithsonian Institution: four undergraduate and two high school students.

STUDENT SUPERVISION

Current Students

Co-advisor

Anna McKee, UGA (Presidential Fellow), School of Forestry & Natural Resources, PhD student.

Committee Member (working in the SREL DNA lab full time* or part-time[§])

Brant Faircloth, UGA, School of Forestry & Natural Resources, PhD student with John Carroll and Bill Palmer, working on genetics, behavior and management of quail.

Ellen Breazel, UGA, Statistics, PhD student with Paul Schliekelman, working on the analysis of estimating the effects of genotyping error in estimates of population differentiation.

[§]Ma Hongbo, UGA, Environmental Health Sciences, PhD student with Phil Williams, working on assaying toxicity of heavy metals and nanoparticles using transgenic *C. elegans* with GFP::mtl-2 construct.

Mark Roberts, USC, PhD student with Joe Quattro, working on phylogeography and genetic mechanisms associated with pesticide resistance in grass shrimp.

Brian Shamblin, UGA, School of Forest Resources, MS student with Joe Nairn, working on genetic structure of loggerheads using microsatellite DNA loci.

[§]Tracey Tuberville, UGA, Ecology, PhD student with Whit Gibbons, working on gopher tortoise conservation.

[§]Arlena Wartel, UGA, PhD student with Ron Pulliam, working on conservation and population genetics is endangered southern flying squirrels in North Carolina.

Visiting Students

[§]Elizabeth Burgess, SREL/UGA, PhD student with Andy Neal, working on genetic diversity of microbial communities in Kamchatka hot springs.

*Lee Miles, University of Sydney, PhD student with Chris Moran and Sally Isberg, working on a genetic map and QTLs in saltwater crocodiles.

*Tanisa Kirkland, FL A&M, student with Richard Gragg, long-term visiting student at SREL, working with Tom Hinton and me to investigate mutation rates in radiation and heavy-metal exposed Japanese medaka.

Undergraduate

Kaitlin Wagner, SREL REU, summer 2007, Boston College.

Luis Rodrigues Matos, SREL REU, summer 2007, University of Puerto Rico, Mayagüez.

Past Students (past 6 years)

Co-advisor

Susanne Hauswaldt, USC, PhD Dec 2004. co-advised with Roger Sawyer, working on exotoxicology and population genetics of diamondback terrapins; currently a post-doc in Germany.

Susan Humphries, USC, MS granted Dec 2004, co-advised with Beth Krizek, working on the development of transgenic *C. elegans* as models for environmental contaminants; currently working for an environmental consulting firm in Colorado.

Nancy (Mandy) Schable, USC, PhD program, co-advised with Roger Sawyer, working on comparative genomics American alligators. Left degree program for personal reasons; currently manages a zebrafish colony at the University of Cincinnati.

Mirela Matioc, UGA, PhD program, co-advised with Phillip Williams, working on transgenic *C. elegans* models for mutagenesis. Left degree program after 1 semester for personal reasons, returned to Romania.

Lisa Davis, USC, MS granted May 1999, immediately entered PhD program, co-advised with Roger Sawyer. MS Thesis: Genetic structure of six populations of American alligators: A microsatellite analysis. PhD granted May 2002. Dissertation: On the genetic variation, mating patterns, and

reproductive dynamics of American alligators. Currently working as a fragment analysis specialist for Applied Biosystems.

Jeffrey French, USC, MS granted May 2001, co-advised with Roger Sawyer, MS Thesis: Characterization and evolutionary relationships among copies of feather β -keratin genes; currently working as a graduate program administrator at USC.

W. Curt Ouzts, USC, MS granted August 2002, co-advised with Burt Ely, MS Thesis: Identification and phylogeny of fishes from the Savannah River Site using cytochrome b and d-loop; currently teaching at a South Carolina community college.

Committee Member or External Reader

Kenneth Oswald, USC, PhD student with Joe Quattro, hybridization of bass. Graduated summer 2007.

Meredith Wright, UGA, PhD student with J Vaun McArthur, working on effects of metal exposure on antibiotic resistance in microbes, especially microbes in invertebrate guts. Graduated summer 2007.

Cliff Ramsdell, USC, PhD student with Mike Dewey, working on mapping *Peromyscus* chromosomes 11, 13, and others. Graduated fall 2006.

Dean Croshaw, University of New Orleans, PhD student with Joseph Pechmann, working on reproductive ecology of salamanders and newts. Graduated summer 2006.

Cathy King, UGA, Toxicology, student with J Vaun McArthur, working on spatial variance of microbial communities. Graduated fall 2005.

Susan Dyer, USC/WSRC, PhD student with John Mark Dean, working on potential impacts of contaminants on larval fish on the Savannah River Site. Graduated summer 2005.

Christopher Comer, UGA/SREL, School of Forest Resources, PhD student with Karl Miller and Steven Castleberry, working on genetic relationships of white-tailed deer on the Savannah River Site. Graduated spring 2005.

Olga Tsusko, SREL/UGA, PhD student with Mike Smith, working on genetic variation within and among cattails (*Typha* spp.) from polluted and reference sites in the US and Ukraine. Graduated fall 2004.

Sandy Benson, USC/SREL, MS student with Lee Newman, working on secondary exposure and toxicity of contaminants in plants to insects. Graduated spring 2004.

Liberty Moore, UGA, School of Forest Resources, MS student with I. Lehr Brisbin, Jr., and Steven Castleberry, working on mercury and stable isotopes in American Alligators. Graduated spring 2004.

Elizabeth Richardson, SREL/UGA, MS student with Charles Jagoe and J Vaun McArthur, working on characterizing bacterial communities in sediments containing TCE. Graduated spring 2004.

Audrey Majeske, UGA, MS student with Richard Winn and Charles Jagoe, working on a direct assay of germline mutations in transgenic medaka. Graduated fall 2003.

Elizabeth Burgess, SREL/UGA, MS student with J Vaun McArthur, genetic diversity of microbial communities using tRFLP. Graduated summer 2003.

Jacob Gratten, University of Queensland, PhD student of Craig Moritz, "The molecular systematics, phylogeography, and population genetics of Indo-Pacific *Crocodylus*." External Reader, summer 2003.

Mona Lisa Jamerlan, University of Queensland, MS student of Gordon Grigg, "Establishing mating systems by microsatellite analysis in declining saltwater crocodile (*Crocodylus porosus*) hatchling production at Edward River crocodile farm (Nth. Queensland)". External Reader, summer 2002.

Taras Oleksyk, SREL/UGA, PhD student of Mike Smith, working on mtDNA and microsatellites of *Apodemus* from the Ukraine. Graduated summer 2001.

Gordon Plague, SREL/UGA, PhD student of J Vaun McArthur, working on genetic variation of caddis flies. Graduated fall 2000.

Robin Hardee, USC, M.S. student of Duane Yoch, working on phylogenetic relationships of microorganisms expressing DMSP lyase. Graduated spring 2000.

Visiting Students

Matthew Chatfield – University of Michigan, developing microsatellite loci for salamanders. Spring 2006.

- Lee Miles, University of Sydney, Australia, student with Chris Moran, developing microsatellite and fosmid markers to map Quantitative Trait Loci in saltwater crocodiles. Fall 2005.
- Nathan Bendik, University of Texas, Arlington, student with Paul Chippendale, working on endangered salamanders in Texas. September, 2005.
- H. Bobby Fokidis, Arkansas State University, MS student with Tom Risch, working on reproductive success of southern flying squirrels. 2002-2003.
- Karen Francl, UGA, PhD student of Steven Castleberry, working on characterizing metapopulations of meadow voles with mtDNA and GIS, fall 2002 - spring 2003
- Alessandra Seccomandi, Universidade Federal de Sao Carlos, Brazil; PhD student with Silvia Del Lama, working on population genetics of wood storks, 02/2002 – 04/2003.
- Yong Jin Lee, UGA, PhD student with Juergen Wiegel and Christopher Romanek, working on bacterial communities in experimental wetlands. 2001-2003.
- Julianna Brush (Weir), University of South Carolina – Aiken, M.S. student with Garriett Smith working on fungal infections of coral. 2001-2003.
- Alan Kirsch, Western Carolina University, MS student with James Costa, working on genetic variation among populations of Red-headed pine sawflies, 2001-2002.
- John Kind, SREL/UGA, PhD student of Cham Dallas, working on characterization of radiation damage on transgenic mice and fish. PhD granted from UGA, spring 2000.
- Kevin Holloman, UGA, PhD student of Cham Dallas, working on DNA strand breakage of small mammals from Chernobyl. PhD granted from UGA, fall 2000.
- Nancy Schable, University of Eastern Illinois, M.S. student of Bud Fisher, working on mating success/strategies of dollar sunfish in SRS ponds, 1999-2002.
- Marianna Augustine-Brown, University of Miami, Ohio; visiting SREL lab to develop microsatellite loci, summer 1999 & 2000.
- Pamela Svete, University of Alaska, Fairbanks; visiting USC & SREL to develop and screen microsatellite loci in chipmunks (with Pat DeCoursey at USC) and brant. Summer 1999.

Undergraduate

- Celeste Holz-Schietinger, SREL – summer 2005
- Latasha Cofer, SREL – summer 2005
- Katie Copenhaver, SREL – summer 2004
- Kate Hertweck, SREL – summer 2004
- Maureen Peters, SREL – summer 2003
- Chalita Johnson, SREL – summer 2003
- Traci Heincelman, USC – summer 2001 - 2002
- Denise Strickland, USC & SREL – fall 1999 – 2002
- Wendy Grus, SREL & UGA – summer 2000 – 2001
- Ashley Elzerman, SREL – summer 2000
- Liberty Moore, SREL & UGA – summer 2000 – current MS student
- Shawanda Ratchford, USC – summer 1999 – spring 2000.
- W. Curt Ouzts, USC-Aiken & SREL – summer 1999 – current MS student
- Sarah Boyce, USC – summer 1999
- Thomas Woods Brown, USC – spring 1998 – fall 1999
- Holly Quillen, SREL – summer 1999
- Rachael Zweirogon, USC – summer 1999
- Robert Alex Upchurch, SREL/Coastal Carolina (at USC) – summer 1998

High School

- Milli Patel, South Carolina Governor's School; USC Water Center Internship; summer 2000.
- Jennifer Sexton, South Carolina Governor's School; USC Water Center Internship; summer 1999.
- Denise Strickland, South Carolina Governor's School; USC Water Center Internship; summer 1998.

VISITING SCIENTISTS SPONSORED

Stacey Lance, Colby College; developing microsatellite DNA loci, fall 2007.

Thierry Cadalen & Monika Morchen, Universite des Sciences et Technologies de Lille, France;
developing microsatellite DNA loci, November 2004.

Dorset Trapnell, University of Georgia, developing microsatellite DNA loci, fall 2004.

Gary & Ann Fritz, Eastern Illinois University, developing microsatellite DNA loci, fall 2002.

Jennifer Dever, Lander University, working on mtDNA of red pandas, summer 2000.