

CURRICULUM VITAE
Steven Thomas Purucker

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Work: Ecology & Evolutionary Biology
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Education

B.A., 1991. University of Tennessee, Zoology & Anthropology.

Ph.D., anticipated Summer 2006. University of Tennessee, Ecology and Evolutionary Biology
Dissertation: "Spatially Explicit Modeling of Environmental Risk Assessment Processes", Advisor: Dr. Tom Hallam

Professional

1992- present: Sr. Research Associate, The Institute for Environmental Modeling, U. Tennessee
I have worked in The Institute for Environmental Modeling at the University of Tennessee. Particular areas of interest include spatial statistical applications to environmental contamination problems, exposure assessment development, fate and transport of contaminants, ecological population models, and applications of uncertainty analysis to these areas in a decision-making context. I am a co-developer and co-principal investigator for the Spatial Analysis and Decision Assistance (SADA) freeware. I develop and maintain a dynamic link library consisting of algorithms for statistical, ecological, and human health risk assessment capabilities that work in a spatial GIS context. This library is used in SADA and has also been used in the FIELDS ArcGIS add-in software produced by EPA Region 5. In addition to coding, I am active in all areas of software project development for SADA; including software design, creating and maintaining the web page, documentation and help file development, procurement of funding, software verification and validation, distribution testing, and conducting multi-day software training sessions.

Selected Papers/Presentations/Technical Reports

- Hallam, T.G., et al. 2006. *Ecological, Economic, and Evolutionary Corollaries of Insectivory in Transgenic Cotton* (to be submitted to Proceedings of the National Academy of Sciences).
- Purucker, S.T., C.J.E. Welsh, R.N. Stewart, and P. Starzec. 2006. *Use of habitat-contamination spatial correlation to determine when to perform a spatially explicit ecological risk assessment* (to be submitted to Ecological Modelling).
- Stewart, R.N. and S.T. Purucker 2006. *SADA: A Freeware Decision Support Tool Integrating GIS, Sample design, Spatial Modeling, and Risk Assessment*. Proceedings of the Third Biennial Meeting of the International Environmental Modelling and Software Society, Burlington, Vermont (submitted).
- Purucker, S.T., R.N. Stewart, and C.J.E. Welsh 2005. *Use of habitat-contamination spatial correlation to determine when to perform a spatially explicit ecological risk assessment*. Society for Environmental Toxicity and Chemistry; Baltimore, Maryland. (talk)
- Purucker, S.T., R.N. Stewart, C.J.E. Welsh 2005. *SADA: Freeware for GIS and Ecological Risk Assessment in the Classroom*. Ecological Society of America, Montreal, Canada. (poster)

- Stewart, R.N. and S.T. Purucker 2005. *Spatial Approaches for Subsurface Sample Design, Characterization, and Decision Support*. Proceedings of the American Nuclear Society Topical Meeting on Decommissioning, Decontamination, and Reutilization, Denver, Colorado.
- Purucker, S.T. and T.G. Hallam 2004. *Ecological Interactions between the Mexican Free-tailed Bat and the European Corn Borer: A Model for the Effects of Bt Crops on Bats and Insect Resistance Dynamics*. North American Symposium for Bat Research; Salt Lake City, Utah. (poster).
- Purucker, S.T. 2004. *Characterizing Risk in SADA*. Geostatistical Analysis of Health and Exposure Conference, Ann Arbor, Michigan,. (talk)
- Purucker, S.T., R.N. Stewart, C.J.E. Welsh 2004. *Spatially Explicit Ecological Risk Assessment and Foraging Models*. The International Environmentrics Society/Spatial Accuracy Symposium; Portland, Maine. (talk)
- Purucker, S.T. 2003. *Spatial Methods for Environmental Sampling, Risk Characterization, and Management*. Society for Risk Analysis, World Congress on Risk; Brussels, Belgium. (talk and session organizer).
- Holland, J., S.M. Bartell, T.G. Hallam, S.T. Purucker, C.J.E. Welsh 2002. *Role of Computational Toolkits in Environmental Management*. Chapter 6 in Dale, V.H. (editor). Ecological modeling for resource management. New York: Springer-Verlag.
- Mulligan, P. and S.T. Purucker 2002. *Consistency and Efficiency in Risk Assessment using Spatial Analysis and Decision Assessment (SADA) Software* Tennessee Solid/Hazardous Waste Conference & Exhibition Gatlinburg, TN. (talk)
- Purucker, S.T. 2000. *Human Health and Ecological Risk Assessment using SADA*. RCRA: Visions for the Future. Environmental Protection Agency National RCRA Program Meeting. Washington, DC. (talk)
- Purucker, S.T. 1999. *Dose Rate Variability from Chronic Sr-90 Exposures to White-tailed Deer (Odocoileus virginianus) in Melton Valley, Tennessee*. Ecological Society of America; Spokane, Washington. (talk)
- Drake, J.A., C.R. Zimmerman, and S.T. Purucker 1998. *On the nature of the assembly trajectory*. Chapter 5 of "The Search for Assembly Rules in Ecological Communities." Cambridge University Press, Cambridge, UK.
- Welsh, C.J.E. and S.T. Purucker 1998. *Quantitative Uncertainty Analysis of a Terrestrial Food Chain Exposure Model Used in Ecological Risk Assessment*. ORNL/TM.
- Purucker, S.T. 1997. *Method for Calculating Preliminary Remediation Goals in Groundwater Based on Soil Concentrations*. ORNL/TM-251.
- Stewart, R.N., A.Q. Armstrong, B.R. James, D.M. Douthat, and S.T. Purucker 1995. *Cost Versus Risk Reduction in Remedial Action: A Decision Framework*. ORNL/TM-13143.
- Lyon, B.F., S.T. Purucker, and R.N. Stewart 1994. *The Value of Perfect Information: How Much is a Crystal Ball Worth?* Proceedings of the International Specialty Conference. Cost Effective Acquisition and Utilization of Data in the Management of Hazardous Waste Sites. Air & Waste Management Association. Pittsburgh, PA. pp. 44-55.
- Purucker, S.T. and B.F. Lyon 1994. *Decision Analysis Applications and the CERCLA Process*. Proceedings of the International Specialty Conference. Cost Effective Acquisition and Utilization of Data in the Management of Hazardous Waste Sites. Air & Waste Management Association. Pittsburgh, PA, pp. 56-68.
- Purucker, S.T., B.F. Lyon, L.D. Nanstad, R.N. Stewart 1994. *Decision Support for CERCLA Investigations: An Introduction to Decision Analysis Applications*. ES/ER/TM-134.
- Purucker, S.T. and B.F. Lyon. 1994. *Risk Based Decision-Making in the Feasibility Study*. ORNL/TM-111.