Ephraim M. Hanks

Current Position

Assistant Professor of Statistics
The Pennsylvania State University
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Education

PhD, Statistics 2013
Colorado State University. Adviser: Mevin B. Hooten
Dissertation Title: Statistical models for animal movement and landscape connectivity.

M.S., Statistics 2010
Utah State University. Adviser: Mevin B. Hooten
M.S. Project Title: Improving accuracy of large-scale prediction of forest disease incidence through Bayesian data reconciliation.

B.S., Mathematics 2002
Utah State University.

Peer-Reviewed Publications

Hooten, M.B., **E.M. Hanks**, D.S. Johnson, and M.W. Alldredge. 2013. Temporal Variation and Scale in Movement-Based Resource Selection Functions. *Statistical Methodology.* In Press.

Hooten, M.B., **E.M. Hanks**, D.S. Johnson, and M.W. Alldredge. 2013. Reconciling Resource Utilization and Resource Selection Functions. *Journal of Animal Ecology.* In Press.

Hanks, E.M., M.B. Hooten. 2013. Circuit Theory and Model-Based Inference for Landscape Connectivity. *Journal of the American Statistical Association.* 108:22-33.

Hanks, E.M., M.B. Hooten, D.S. Johnson, and J.T. Sterling. 2011. Velocity-based movement modeling for individual and population level inference. *PLoS ONE.* e22795.

Hanks, E.M., M.B. Hooten, and F.A. Baker. 2011. Reconciling multiple data sources to improve accuracy of large-scale prediction of forest disease incidence. *Ecological Applications.* 21(4):1173-1188.

Hooten, M.B., D.S. Johnson, **E.M. Hanks**, and J.H. Lowry. 2010. Agent-based inference for animal movement and selection, *Journal of Agricultural, Biological, and Environmental Statistics.* 15:523-538.

In Review

Hanks, E.M., M.B. Hooten, and M.W. Alldredge. 2012. Continuous-Time, Discrete-Space Models of Animal Movement. *Journal of Agricultural, Biological, and Environmental Statistics.* In Review.

Other Publications

Hanks, E.M.. 2013. Statistical models for animal movement and landscape connectivity. *PhD Dissertation.* Colorado State University.

Hanks, E.M., M.B. Hooten, D.S. Johnson, and J.T. Sterling. 2012. Velocity-based movement modeling for individual and population level inference. *ASA Section on Statistics and the Environment.* Summer Newsletter. 2012.

Hanks E.M., M.B. Hooten, L. McFarlane, and K.E. Mock. 2011. Model-based approaches for characterizing gene flow at the landscape scale in Utah and Colorado mule deer (Odocoileus hemionus). Final report prepared for Utah Division of Wildlife Resources and United States Geological Survey.

Hanks, E.M., M.B. Hooten, and K.E. Mock. 2010. Model-based approaches for characterizing environmental effects on spatial genetic flow. In *JSM Proceedings*, Section on Statistics and the Environment. Alexandria, VA: American Statistical Association. pp4113-4126.

Presentations

Joint Statistical Meetings 2013
Latent Spatial Models for Landscape Genetics.

Ohio State University Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

Pennsylvania State University Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

University of Alberta Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

Montana State University Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

University of Wyoming Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

Virginia Technical Institute Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

University of Missouri Statistics Department Seminar Series (Invited) 2013
Circuit Theory, Random Walks, and Model-Based Inference for Landscape Connectivity.

RCN FORECAST Conference (Invited) 2012
Modeling Drivers of Animal Movement.

Joint Statistical Meetings 2012
Random Fields and Statistical Models for Circuits.

Brigham Young University Statistics Department Seminar Series (Invited) 2012
Velocity-based models of animal movement.

Meetings of The Wildlife Society (Invited) 2011
Velocity-based movement modeling for individual and population level inference.

Joint Statistical Meetings (Invited) 2011
Velocity-based movement modeling for individual and population level inference.

Colorado Chapter of The Wildlife Society 2011
Model-based approaches for characterizing environmental effects on spatial gene flow.

CSU College of Natural Sciences SOARS Seminar. 2011
Marginal inference for hierarchical models with intractable likelihoods.

Joint Statistical Meetings 2010
Model-based approaches for characterizing environmental effects on spatial genetic flow.

The International Environmentrics Society (Invited) 2010
Resource selection from animal movement models.

International Association of Landscape Ecology 2009
Improving predictions of dwarf mistletoe incidence in black spruce using Bayesian hierarchical models.

USU Bayesian research group 2009
Improving predictions of dwarf mistletoe incidence in black spruce using Bayesian hierarchical models.

Statistical and Applied Mathematical Sciences Institute 2009
Agent-based inference for animal movement and selection.

Joint Statistical Meetings 2009
Improving predictions of dwarf mistletoe incidence in black spruce using Bayesian hierarchical models.

Workshops

USU College of Natural Resources 2012
Short course in Bayesian statistics for ecologists.

USU Ecology Center 2010
Bayesian statistical modeling: a brief introduction to hierarchical statistical modeling in ecology.

International Association of Landscape Ecology 2009
Bayesian methods for landscape ecologists.

Funding Involvement

Dynamic environmental effects on harbor seal movement ($30,000) 2011
Alaska Department of Fish and Game.

Optimal sampling for landscape genetics ($1,200) 2010

Travel grant ($500) 2010
USU School of Graduate Studies

Travel grant ($500) 2009
USU School of Graduate Studies

Service

Graduate Student Seminar Coordinator 2011-2013
CSU Statistics Department

Annual Graduate Student Poster Session Organizer 2012
CSU Statistics Department

Referee Experience

Statistica Sinica 2013

Statistical Methodology 2013

Annals of Applied Statistics 2012-2013

Journal of Agricultural, Biological, and Environmental Statistics 2012-2013

Ecology Letters 2013

Journal of Applied Ecology 2013

Journal of Wildlife Management 2012

	Methods in Ecology and Evolution	2011-2012
	Ecological Applications	2011

Teaching Experience

Pennsylvania State University 2013-Present

- STAT 416: Stochastic Modeling.

Utah State University 2009-2010

- MATH 1010: Intermediate Algebra (three sections).

Awards

Joint Statistical Meetings Student Paper Competition, First Place. ASA Section on Statistics and the Environment	2012
James L., M. Leslie, and Edna Madison Memorial Award. CSU Department of Statistics	2012
Joint Statistical Meetings Presentation Award. ASA Section on Statistics and the Environment	2011
Joint Statistical Meetings Student Paper Competition, Second Place. ASA Section on Statistics and the Environment	2011
NSF Graduate Research Fellowship Honorable Mention. National Science Foundation	2010
College of Science M.S. Researcher of the Year. Utah State University	2010