

J.M. SHAWN HUTCHINSON

Associate Professor
 Department of Geography
 118 Seaton Hall, Kansas State University
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Personal Data

Date and Place of Birth: December 15, 1967; Cincinnati, Ohio
Spouse: Dr. Stacy Lewis Hutchinson, Associate Professor
 Department of Biological and Agricultural Engineering, Kansas State University
Children: Mitchell Owen Hutchinson (4/10/01) and Marleigh Louise Hutchinson (2/4/03)
Home Address: 3208 Willowood Circle, Manhattan, Kansas 66502

Education**Ph.D., Geography, Kansas State University (2000)**

Advisor: Dr. John A. Harrington, Jr.

M.A., Geography, Kansas State University (1997)

Advisor: Dr. John A. Harrington, Jr.

B.S., Wildlife Biology (Minor, Range Ecology), Colorado State University (1990)

Advisor: Dr. Dale Hein; *Cum Laude* and *Distinguished Military Graduate*

Academic Interests*Research Program*

Biogeography, agricultural biosecurity, integration of GIS and remote sensing with surface water quality and environmental models, remote sensing of soil moisture, and applied physical geography.

Teaching Interests

Application and integration of geospatial technologies, geographic information systems (GIS), computer mapping/digital cartography, satellite remote sensing and digital image processing, water resources and river systems, biogeography, physical geography, and agricultural biosecurity.

Professional Experience

Associate Professor, Department of Geography, Kansas State University; 2007 – Present.

Assistant Professor, Department of Geography, Kansas State University; 2002 – 2007.

Director, Geographic Information Systems Spatial Analysis Laboratory (GISSAL), Department of Geography, Kansas State University; 2002 – Present.

Geographic Information Systems Coordinator, Kansas State University; 2000 – Present

Visiting Assistant Professor, Department of Geography, Kansas State University; 2001 – 2002.

Associate Director, Geographic Information Systems Spatial Analysis Laboratory (GISSAL), Department of Geography, Kansas State University; 2001 – 2001.

Visiting Assistant Professor, Department of Biological and Agricultural Engineering, Kansas State University; 2000 – 2001.

Adjunct Professor, Department of Geography, Kansas State University; 2001 – Present

Graduate Research Assistant, Department of Geography, Kansas State University; 1998 .

Geographic Information Systems Manager, National Institute for Land Management and Training, Kansas State University; 1997 – 1998.

Graduate Research Assistant, Department of Geography and Division of Biology, Kansas State University; 1995 – 1997
U.S. Army Engineer Officer, Platoon Leader (2nd Lieutenant) to Brigade Staff Officer (Captain); 1991 –1995
 [See *Summary Military Experience* for more information].

Peer-Reviewed Publications

- Margosian, M.L., K.A. Garrett, J.M.S. Hutchinson, and K.A. With. Connectivity of the American Agricultural Landscape: Assessing the National Risk of Crop Pest and Disease Spread. *BioScience*, in preparation.
- Kim, I.J., S.L. Hutchinson, J.M.S. Hutchinson, and C.B. Young. 2007. Riparian Ecosystem Management Model (REMM): Sensitivity to soil, vegetation, and weather input parameters. *Journal of American Water Resources Association* 43(5):1171-1182.
- Hutchinson, J.M.S., T.J. Vought, Jr., and S.L. Hutchinson. 2006. Continuous soil moisture mapping using MODIS LST and NDVI products. *Papers of the Applied Geography Conference* 29:140-149.
- Goodin, D.G., D.E., Koch, R.D., Owen, J.M.S. Hutchinson, and C.B. Jonsson. 2006. Land cover associated with hantavirus presence in Paraguay. *Global Ecology and Biogeography* 15:519-527.
- Goodin, D.G., J. Gao, J.M.S. Hutchinson. 2004. Seasonal, topographic, and burn frequency effects on biophysical/spectral reflectance relationships in tallgrass prairie. *International Journal of Remote Sensing* 25(23):5429-5445.
- Hutchinson, J.M.S., J.A. Harrington, Jr., and L.J. Marzen. 2004. Geospatial Contributions to Watershed-Scale Surface Water Quality Modeling. In D.G. Janelle, B. Warf, and K. Hanson, eds. *World Minds: Geographical Perspectives on 100 Problems*, 556-570. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Hutchinson, J.M.S. 2003. Estimating near surface soil moisture using active microwave satellite imagery and optical sensor inputs. *Transactions of the American Society of Agricultural Engineers* 46(2):225-236.
- Hutchinson, J.M.S., N.J. Leathers, J. Herynk, L.R. Campbell, and J.C. Reese. 2003. Agricultural plant pathogen disease pathways: Predicting the dispersal of exotic soybean aphids. *Papers and Proceedings of the Applied Geography Conference* 26:471-478.
- Stansberry, B.M., J.M.S. Hutchinson, C.D. Becker, P.S. Gipson, T.H. Parker. 2003. Settlement patterns of forest birds in a prairie landscape. *Papers and Proceedings of the Applied Geography Conference* 26:479-487.
- Brown, T.L., J.M.S. Hutchinson, J.A. Harrington, Jr., and M. Lu. 2003. Classification of natural characteristics and anthropogenic stressors in Kansas watersheds. *Papers and Proceedings of the Applied Geography Conference* 26:416-423.
- Bhuyan, S.J., K.R. Mankin, J.M.S. Hutchinson, D.G. Goodin, J.K. Koelliker. 2002. Deriving land cover of a large agricultural watershed from multiple Landsat scenes. *Journal of Environmental Hydrology*, Paper 6, Volume 10 (www.hydroweb.com/jeh.html).
- Hutchinson, J.M.S., J.A. Harrington, Jr., and L.J. Marzen. 2002. Geographic applications in nonpoint source pollution assessment. *Papers and Proceedings of the Applied Geography Conference* 25:18-26.
- Goodin, D.G., J.M.S. Hutchinson, R.L. Vanderlip, and M.C. Knapp. 1999. Estimating Solar Irradiance for Crop Modeling using Daily Air Temperature Data. *Agronomy Journal* 91(5):845-851.
- Hutchinson, J.M.S. 1998. Extracting Soil Moisture Information from ERS-1 SAR Imagery. *Applied Geographic Studies* 2(3):177-194.
- Hutchinson, J.M.S. and B.C. Rundquist. 1998. Spatial Modeling of Net Radiation over Heterogenous Terrain. *Papers and Proceedings of the Applied Geography Conference* 21:416-423.
- Hutchinson, J.M.S. 1997. Radar Backscatter - Soil Moisture Relationships over Tallgrass Prairie. *Papers and Proceedings of the Applied Geography Conference* 20:318-326.

Other Publications

- Vought, Jr., T.J. and J.M. Shawn Hutchinson. 2007. Assessing the vulnerability of U.S. livestock to agricultural biological terrorism (map). ESRI Map Book, Vol. 22, p. 48. Redlands, CA: ESRI Press.

- Margosian, M.L., K.A. Garrett, J.M.S. Hutchinson, and K. With. 2007. Connectivity of the American Agricultural landscape: A graph-theoretic approach. 2007 ESRI International User Conference Proceedings, Redlands, CA.
- Hutchinson, Shawn. 2006. Responding to the threat of agricultural bioterrorism. *Directions Magazine* (Nov. 9). http://www.directionsmag.com/article.php?article_id=2333&trv=1.
- Lee, M., K.R. Mankin, J.M.S. Hutchinson. 2006. GIS Structure for Water Quality Trading. Paper No. MC06-4102 presented at the 2006 Mid-Central Section Meeting of the American Society of Agricultural and Biological Engineers. ASABE, 2950 Niles Rd., St. Joseph, MI 49085-9659.
- R.M. Aiken, D.J. Inloes, and J.M.S. Hutchinson. 2005. Precipitation maps: Can they support a regional water balance? Kansas State University Agronomic Field Research, Northwest Research and Extension Center. Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan, Kansas 66506.
- Hutchinson, S.L., P.L. Barnes, J.M.S. Hutchinson, C.G. Oviatt, J. Steichen, and N. Zhang. 2004. Protecting Surface Water from Military Activity with Riparian Buffers and Low Water Stream Crossings. Paper No. 701P0904 presented at the 2004 ASAE/CSAE International Meeting. ASAE, 2950 Niles Rd., St. Joseph, MI 49085-9659.
- Engel, B.A., J. Choi, L. Theller, K.J. Lim; supporting authors J. Harrington, L. Harrington, S. Hutchinson. Geographic information systems (GIS) Technology. Chapter 15 in *Carcass Disposal: A Comprehensive Review*. Report prepared by National Agricultural Biosecurity Center Consortium, Carcass Disposal Working Group. CD and online at <http://fss.k-state.edu>. National Agricultural Biosecurity Center, Kansas State University, Manhattan, Kansas. 37 pp.
- Kim, I.J., S.L. Hutchinson, and J.M.S. Hutchinson. 2004. Assessment of Flow Paths in Upland Areas and Vegetated Buffers. Paper No. 042003 presented at the 2004 ASAE/CSAE International Meeting. ASAE, 2950 Niles Rd., St. Joseph, MI 49085-9659.
- Hutchinson, S.L., I.J. Kim, J.M.S. Hutchinson. 2002. Riparian Ecosystem Management Model Parameter Selection Using a Geographic Information System. Paper No. 022115 presented at the 2002 ASAE International Meeting. ASAE, 2950 Niles Rd., St. Joseph, MI 49085-9659.
- Hutchinson, J.M.S. 2001. Radar estimates of soil water content across vegetated watersheds. Paper No. 012222 presented at the 2001 ASAE International Meeting. ASAE, 2950 Niles Rd., St. Joseph, MI 49085-9659.

Extramural Funding

- Harrington, John, Doug Goodin, and J.M.S Hutchinson. 2006. Improving the Research Experience for Geographic Information Science Students. NASA in Kansas Space Grant, \$54,750.
- Harrington, J.A., Jr., J.M.S. Hutchinson, and R.A. Marston. 2006. Global GIS Place-Based Field Research in the Antilles. Foreign Military Studies Office (FMSO), \$76,716
- Hutchinson, J.M.S. 2006. Web-based Visualization and Analysis Tool (WBV&AT). National Agricultural Biosecurity Center, Kansas State University, \$47,669.
- Hutchinson, J.M.S. 2006. 24K National Hydrography Dataset Revision. Kansas GIS Policy Board, \$25,000.
- Hutchinson, J.M.S., J.A. Harrington, Jr. 2005. Geospatial Technology Infrastructure Enhancement Program – Phase II. Kansas State University Targeted Excellence Program, \$550,000.
- Hutchinson, J.M.S. 2005. Kansas Forest Stewardship Assessment (SAP) Program. Kansas Forest Service, \$58,107.
- Hutchinson, J.M.S., E. Bernard, and D. Andresen. 2005. GIS Functionality for the Environmental Knowledge and Assessment Tool (EKAT). Center for Hazardous Substance Research (Urban Operations Environmental Laboratory) and M2 Technologies, \$99,203.
- Hutchinson, S.L. and J.M.S. Hutchinson. 2005. Green Topeka: Vegetated BMPs for Urban Stormwater Control. Cooperative agreement between the City of Topeka Water Pollution Control Division and Kansas State University, \$50,000/year for up to 5 years.
- Hutchinson, J.M.S., J.A. Harrington, Jr. 2004. Geospatial Technology Infrastructure Enhancement Program. Kansas State University Targeted Excellence Program, \$330,000.
- Jonsson, C.B., L. Allen, Y. Chu, R. Owens, D.G. Goodin, J.M.S. Hutchinson, E. Pontelli, D. Ranjan, S. Tran, M. Almiron. 2003. The Impact of Rapid Anthropogenic Land Cover Change in the Chaco and Interior

- Atlantic Forest in Paraguay on Hantavirus Ecology. National Institutes of Health, \$1,857,996.
- Hutchinson, J.M.S. 2003. Vegetation Mapping of National Parks in the Southwestern United States. U.S. Dept. of Interior National Park Service, \$117,000.
- Hutchinson, J.M.S. 2003. Travel to Paraguay in Support of Student Exchange and Research Activities. Faculty Development Award, Kansas State University, \$1,500.
- Hutchinson, J.M.S. 2003. Brownfield Maps of Contamination in Communities. Great Plains Hazardous Substance Research Center, \$20,000
- Hutchinson, J.M.S. 2003. West Nile Virus Monitoring and Mapping. Kansas Department of Health and Environment and Department of Entomology, Kansas State University, \$5,000.
- Steichen, J., S.L. Hutchinson, P. Barnes, J.M.S. Hutchinson, D. Althoff, J. Oviatt, N. Zhang. 2003. Assessing the Impact of Maneuver Training on NPS Pollution and Water Quality. Strategic Environmental Research and Development Program (SERDP), \$1,217,512.
- Reese, J., J.M.S Hutchinson, and J. Campbell. 2003. Post Hoc Exercise on the Spread of a Potential Bioterrorism Agent. USDA Animal and Plant Health Inspective Service (APHIS) and the KSU National Agricultural Biosecurity Center. \$70,395.
- Goodin, D.G., J.A. Harrington, Jr., and J.M.S. Hutchinson. 2002. HYSPIRE: Hyper-Spectral Remote Sensing of Kansas Rural Environments. NASA, \$292,709.
- Hutchinson, J.M.S. 2002. GPS Base Station Operation and Technical Support. Kansas Department of Administration, \$39,000.
- Hutchinson, J.M.S. and J.A. Harrington, Jr. 2001. Soil Survey Geographic (SSURGO) Digitization. USDA Natural Resources Conservation Service, \$25,000
- Hutchinson, J.M.S. 2001. Geographic Information System Support for High Plains Dairy Suitability Assessment. Department of Animal Sciences, Kansas State University, \$6,000.
- Bernard, E. and J.M.S. Hutchinson. 2001. Human Resources GIS Database and Map Development. Union Pacific Railroad, \$1,700.
- Mankin, K.R., J.K. Koelliker, J.A. Harrington, and J.M.S. Hutchinson. 2000. Kanopolis Watershed Water Quality Assessment. Kansas Department of Health and Environment (KDHE), \$385,995.
- Seyler, H.L. (continued by Harrington, J.A. and J.M.S. Hutchinson). 1999. Soil Survey Geographic (SSURGO) Soils Recompilation and Digitizing (Kansas and Colorado). USDA Natural Resources Conservation Service, \$102,500 (two year award).
- Seyler, H.L. (continued by J.A. Harrington and J.M.S. Hutchinson). 1999. Development of a GIS for Marais des Cygnes Wildlife Refuge. U.S. Fish and Wildlife Service, 23,000 (two year award).
- Hutchinson, J.M.S. 1998. Research and Development Grant for Low-Cost Radar Imagery. European Space Agency, \$8,000.

Papers and Posters Presented at Professional Meetings

- Validating the Kinematic Wave Approach for Rapid Soil Erosion Assessment and Improved BMP Site Selection to Enhance Training Land Sustainability.** December 2007. SERDP and ESTCP Partners in Environmental Technology Technical Symposium & Workshop; Washington, DC (S.L. Hutchinson and J.M.S. Hutchinson).
- Kansas Forest Stewardship Program: Spatial Analysis Project.** June 2007. ESRI International User Conference; San Diego, CA (M. Dulin and J.M.S. Hutchinson).
- Connectivity of the American Agricultural Landscape.** June 2007. ESRI International User Conference; San Diego, CA (M. Margosian, J.M. Shawn Hutchinson, K. Garrett, and K. With)
- Assessing the Impact of DEM Resolution in Determining Transitional Erosion Areas: A Case Study of a Small Watershed in Fort Riley, Kansas.** June 2007. ESRI International User Conference; San Diego, CA (A. Kesarwani, J.M. Shawn Hutchinson, S.L. Hutchinson, and I.J. Kim)
- Kansas Forest Stewardship Spatial Analysis Project (SAP).** April 2007. U.S. Forest Service Forest Stewardship Program Spatial Analysis Summit; Broomfield, CO (J.M.S. Hutchinson and R. Atchison).
- Impact of Land Use on Rodent-Hantavirus Dynamics in Paraguay.** October 2006. EcoHealth ONE Conference; Madison, WI (D.G. Goodin, L.B. Allen, Y. Chu, J.M.S. Hutchinson, C.B. Jonsson, R.D. Owen, E. Pontelli, and S. Tran)
- Continuous Soil Moisture Mapping using MODIS LST and NDVI Products.** October 2006. Applied

- Geography Conference; Tampa, FL (with T.J. Vought, Jr. and S.L. Hutchinson)
- Continuous Soil Moisture Mapping using MODIS LST and NDVI Products.** August 2006. ESRI International User Conference; San Diego, CA (with T.J. Vought, Jr. and S.L. Hutchinson)
- Assessing the Vulnerability of U.S. Counties to Bioterrorism.** August 2006. ESRI International User Conference; San Diego, CA (with T.J. Vought, Jr.)
- The Effects of Different Resolution DEMs in Determining Overland Flow Regimes.** August 2006. Integrated Training Area Management (ITAM) Workshop; Manhattan, KS (S.L. Hutchinson, J.M.S. Hutchinson, I.J. Kim, and P.B. Woodford).
- A GIS-Enabled Kinematic Wave Approach for Calculating the Transition between Sheet and Concentrated Flows.** August 2006. Integrated Training Area Management (ITAM) Workshop; Manhattan, KS (S.L. Hutchinson, J.M.S. Hutchinson, and I.J. Kim).
- Spatial and Temporal Analysis of Soil Moisture using MODIS NDVI and LST Product.** August 2006. Integrated Training Area Management (ITAM) Workshop; Manhattan, KS (J.M.S. Hutchinson, T.J. Vought, Jr. and S.L. Hutchinson).
- Overview: Assessing the Impact of Maneuver Training on Nonpoint Source Pollution and Water Quality (Project #CP-1339).** August 2006. Integrated Training Area Management (ITAM) Workshop; Manhattan, KS (J.M. Steichen, P.L. Barnes, S.L. Hutchinson, J.M.S. Hutchinson, P.B. Woodford, and N. Zhang).
- Agricultural Biosecurity and GIS: Overview and Applications.** April 2006. MidAmerica GIS Symposium; Kansas City, MO (with Bradley De Groot and John Reese).
- GIS Structure for Water Quality Trading.** April 2006. Mid-Central Regional Meeting of the American Society of Agricultural and Biological Engineers; Manhattan, KS (with M. Lee and K.R. Mankin).
- Rapidly Changing Demographics and Water Uses in the Arkansas River Basin.** March 2006. 23rd Annual Water and the Future of Kansas Conference; Topeka, KS (with J.A. Harrington, Jr. and Nathan Kettle).
- Agricultural Biosecurity and GIS: A Site Evaluation Model for Mass Livestock Burial.** March 2006. Annual Meeting of the Association of American Geographers; Chicago, IL.
- A GIS-Enabled Kinematic Wave Approach for Calculating the Transition between Sheet and Concentrated Flows.** December 2005. Partners in Environmental Technology Symposium and Workshop; Washington, D.C. (with S.L. Hutchinson and I.J. Kim).
- Agricultural Emergency Management with GIS: Animal Carcass Disposal Modeling.** November 2005. Applied Geography Conference; Washington, D.C. (with L. Emerson and S. Oko).
- GIScience Research for Protecting Public Health and Food Supplies: Food Safety and Security Applications.** September 2005. ESRI Homeland Security GIS Summit; Denver, CO.
- Evaluation of Overland Flow Paths Generated from Multiresolution Digital Elevation Models.** April 2005. Annual Meeting of the Association of American Geographers; Denver, CO (with S.L. Hutchinson and I.J. Kim).
- Protecting Public Health and Food Supplies: GIScience Research for Understanding Plant, Animal, and Human Biohazard Interactions.** February 2005. UCGIS Congressional Breakfast (sponsored by Senator Clinton and Representatives Maloney and Shays); Washington, D.C. (with E. Bernard, J. Harrington, Jr., B. DeGroot, J. Stack, J. Reese, C. Kastner, and M. Vanier).
- Spatial Soil Moisture Estimates for Fort Riley, Kansas using MODIS Land Surface Temperature and Vegetation Index Products.** November 2004. Partners in Environmental Technology Symposium and Workshop; Washington, D.C. (with S.L. Hutchinson and T. Vought).
- Predicting the Dispersal of the Soybean Aphid, *Aphis glycines*, using GARP Models.** November 2004. Annual Meeting of the Entomological Society of America; Salt Lake City, UT (with L.R. Campbell, J. Reese, N. Leathers, and B. Stansberry).
- Predators and Their Habitats Revisited: A Diverse Carnivore Community and Their Habitat Associations in the Atlantic Forest of Paraguay.** November 2004. Defenders of Wildlife's Carnivores 2004: Expanding Partnerships in Carnivore Conservation; Santa Fe, NM (with G.L. Zuercher, P.S. Gipson, R. Naidoo, and O. Carrillo).
- Spatial and Temporal Analysis of Soil Moisture using MODIS NDVI and LST Products.** October 2004. Applied Geography Conference; St. Louis, MO (with T. Vought and S.L. Hutchinson)
- Utility of Base Reflectivity for Mapping Precipitation in the Central High Plains.** October 2004. Annual Meeting of the AMS/NWA; Goodland, KS (with R. Aiken and D. Inloes).
- Soil Moisture Estimates using MODIS Land Surface Temperature and NDVI.** August 2004. American and

Canadian Societies of Agricultural Engineering Annual Conference; Ottawa, Ontario (with S.L. Hutchinson and S. Leis).

Habitat Mapping in the Mbaracayu Forest Preserve, Paraguay, using Orthophotography and Landsat TM Imagery. May 2004. Annual Meeting of the American Society of Photogrammetry and Remote Sensing; Denver, CO (with R. Reker and D.G. Goodin).

Predicting Future Geographic Distributions of Exotic Aphids in the United States using GIS-based Ecological Niche Models. April 2004. Annual Meeting of the Kansas (Central States) Entomological Society ; Lincoln, NE (with N. Leathers, B. Stansberry, J. Reese, and L. Campbell).

Modeling Soybean Aphid (*Aphis glycines*) Range Distribution using GARP and Annual Rates of Spread. March 2004. Annual Meeting of the Association of American Geographers; Philadelphia, PA (with Nancy Leathers, John Reese, and Leslie Campbell).

Land Cover Change and Deforestation in the Interior Atlantic Forest, Eastern Paraguay. March 2004. Annual Meeting of the Association of American Geographers; Philadelphia, PA (with Douglas Goodin and Ryan Reker).

Classification of Natural Characteristics and Anthropogenic Stressors in Kansas Watersheds. March 2004. 21st Annual Water and the Future of Kansas Conference; Lawrence, KS (with T.L. Brown, J.A. Harrington, Jr., and Max Lu).

Assessing the Impact of Maneuver Training on NPS Pollution and Water Quality. March 2004. 21st Annual Water and the Future of Kansas Conference; Lawrence, KS (with S.L. Hutchinson, J. Steichen, P. Barnes, C. Oviatt, and N. Zhang).

Home Range Size and Habitat Use by Upland Sandpipers *Bartramia longicauda* in an Experimental Landscape. December 2003. Midwest Fish and Wildlife Conference; Kansas City, MO (with Tony Mong, Brett Sandercock, and Karl Kosciuch).

Assessing the Impact of Maneuver Training on NPS Pollution and Water Quality. December 2003. Partners in Environmental Technology Symposium and Workshop; Washington, D.C. (with J. Steichen, P. Barnes, S.L. Hutchinson, C. Oviatt, N. Zhang, and P. Woodford).

Climatology of Fort Riley, Kansas and Vicinity. November 2003. 26th Annual Applied Geography Conference; Colorado Springs, CO (with B. Hammerschmidt and N.L. Leathers).

The Use of GIS Analysis in Monitoring the North American Distribution of *Aphis glycines* (Soybean Aphid). October 2003. 2003 Entomological Society of America Annual Meeting and Exhibition; Cincinnati, OH (with John Reese and Leslie Campbell).

Findings from a Post-Hoc Exercise on the Spread of a Potential Bioterrorism Agent. October 2003. Annual Meeting of the Great Plains/Rocky Mountain Division of the Association of American Geographers; Manhattan, KS (with Nancy Leathers, John Reese, and Leslie Campbell).

Kansas Watershed Classification Assessment to Vulnerability for Surface Water Quality. October 2003. Annual Meeting of the Great Plains/Rocky Mountain Division of the Association of American Geographers; Manhattan, KS (with Tracy Brown, John Harrington, and Max Lu).

Topographic, Seasonal, and Fire Treatment Effects on Spectral Reflectance in Tallgrass Prairie. October 2003. Annual Meeting of the Great Plains/Rocky Mountain Division of the Association of American Geographers; Manhattan, KS (with Douglas Goodin and Jincheng Gao).

Protecting Surface Water from Military Activity with Riparian Buffers and Low Water Stream Crossings. September 2003. ASAE Specialty Conference Self-Sustaining Solutions for Streams, Wetlands and Watersheds; St. Paul, MN (with S.L. Hutchinson, P.L. Barnes, C.G. Oviatt, J. Steichen, and N. Zhang).

Monitoring and Predicting the Dispersal of Soybean Aphids (*Aphis glycines*) in the U.S. April 2003. Annual Meeting of the Kansas (Central States) Entomological Society; Manhattan, Kansas.

The Dynamics of Dispersal: Soybean Aphid (*Aphis glycines*) Movement in the U.S. April 2003. Annual Meeting of the Kansas (Central States) Entomological Society; Manhattan, Kansas.

GIS Modules for ET and Available Soil Water in Northwest Kansas. March 2003. Kansas Water Conference; Manhattan, Kansas.

Geographic Applications in Nonpoint Source Pollution Assessment. October 2002. Applied Geography Conference; Binghamton, NY.

Modified Cloud Model Approach to Estimating Active Microwave Backscatter from Vegetation in Soil Moisture Investigations. June 2002. 2002 Annual Meeting of the International Geoscience and Remote Sensing Society (IGARSS); Toronto, Ontario, Canada.

Geographic Applications in Nonpoint Source Pollution Assessment. April 2002. Mid-America GIS

Symposium; Kansas City, MO.

- Regionalizing Riparian Ecosystem Management Model (REMM) Parameters.** March 2002. Annual Meeting of the Association of American Geographers; Los Angeles, CA.
- Estimating Tallgrass Prairie Soil Moisture using Active Satellite Microwave Imagery and Optical Sensor Inputs.** February 2001. Annual Meeting of the Association of American Geographers; New York, NY
- The Influence of Topography on Synthetic Aperture Radar Imagery.** March 2000. Annual Meeting of the Association of American Geographers; Pittsburgh, PA.
- Rural Landcover Classification using Multidate SAR Imagery.** May 1999. Annual Meeting of the American Society of Photogrammetry and Remote Sensing; Portland, OR.
- Spatial Modeling of Net Radiation over Heterogenous Terrain.** March 1999. Annual Meeting of the Association of American Geographers; Honolulu, HI.
- Spatial Modeling of Net Radiation over Heterogenous Terrain.** October 1998. Applied Geography Conference; Louisville, KY.
- Extracting Soil Moisture Information from ERS-1 Imagery.** April 1998. Annual Meeting of the Association of American Geographers; Boston, MA.
- Radar Backscatter - Soil Moisture Relationships over Tallgrass Prairie.** October 1997. Applied Geography Conference; Albuquerque, NM.
- Radar Backscatter - Soil Moisture Relationships over Tallgrass Prairie.** September 1997. Great Plains/Rocky Mountain Division of the Association of American Geographers; Bozeman, MT.
- Radar Backscatter - Soil Moisture Relationships over Tallgrass Prairie.** April 1997. Annual Meeting of the Association of American Geographers; Fort Worth, TX.

Invited Presentations

- GIScience Research for Protecting Public Health and Food Supplies: Food Safety and Security Applications.** February 2006. Homeland Infrastructure Foundation Level Database (HIFLD) Working Group Meeting; Washington, D.C.
- Building Partnerships through the Development of a Digital Geoscience Atlas for Senegal.** February 18, 2005. University Cheikh Anta Diop de Dakar (UCAD), Dakar, Senegal (with M. Hubbard, J.A. Harrington, Jr., and D. Goodin).
- Remote Sensing of Soil Moisture.** October 18, 2004. South China Agricultural University, Guangzhou, China.
- Using GIS and Remote Sensing in Biophysical Research.** October 15, 2004. Henan University, Zhengzhou, China.
- GIS Applications in Agricultural Biosecurity.** October 8, 2004. Jilin University – Kansas State University Joint Research Symposium, Jilin University, Changchun, China.
- Using GIS and Remote Sensing in Biophysical Research – Recent Examples.** March 2004. Geology Seminar Series, Department of Geology, Kansas State University.
- Using GIS in Entomology: Predicting the Distribution of Soybean Aphids (*Aphis glycines*) in 2003.** September 2003. Department of Entomology, Kansas State University.
- Watershed Modeling and Geographic Information Systems.** April 2003. Kansas Water Environment Association Annual Conference, Topeka, KS.
- GIS Applications in Agricultural Biosecurity.** December 2002. Seminar for the Carcass Disposal Working Group (CDWG) of the National Agricultural Biosecurity Center, Kansas State University; Manhattan, KS.
- Geographic Applications in Nonpoint Source Pollution Assessment.** December 2001. Seminar for the Gamma Theta Upsilon Geography Honor Society, Kansas State University; Manhattan, KS.
- Spatial Modeling of Net Radiation over Heterogenous Terrain,** June 1999. Seminar for the Remote Sensing and GIS Laboratory, Utah State University; Logan, UT.
- Radar Backscatter - Soil Moisture Relationships over Tallgrass Prairie,** April 1998. Department of Geography and Department of Plants, Soils, and Biometeorology Special Seminar, Utah State University; Logan, UT.

Fellowships and Awards

Team Member, 2005 ESRI Special Achievement in GIS (SAG) Award for Agriculture
 New Faculty Fellow, Kansas State University (2003)
 3rd Place, 2000 AAG Remote Sensing/GIS Specialty Group Student Poster Competition
 1st Place, 1999 AAG Remote Sensing/GIS Specialty Group Student Poster Competition
 2nd Place, 1998 AAG Remote Sensing/GIS Specialty Group Student Poster Competition
 Student Travel Grant, 1998. Great Plains-Rocky Mountain Div. of the Assoc. American Geographers, \$200.
 1st Place, 1997 Applied Geography Conference Student Paper Competition
 1st Place, 1997 Great Plains/Rocky Mountain AAG Student Paper Competition
 2nd Place, 1997 AAG Remote Sensing/GIS Specialty Group Student Poster Competition
 Earth Systems Science Fellowship (3 Year Award). 1997. NASA, \$66,000.
 Department of Defense Environmental Fellowship (2 Year Award). 1995. U.S. Dept. of Defense, \$50,000.
 Meritorious Service Medal, Army Commendation Medal, and Army Achievement Medal (U.S. Army). 1991-1995.
 Army ROTC Four-Year Scholarship (1986-1990), Colorado State University

Teaching Experience

Graduate Courses

GEOG 702 Computer Mapping and Geographic Visualization, Department of Geography, Kansas State University; Spring 2002, Spring 2003, Spring 2005, Spring 2007.
GEOG 708 Geographic Information Systems II, Department of Geography, Kansas State University; Fall 2001, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006
GEOG 725 Geography of Water Resources, Department of Geography, Kansas State University; Spring 2004, Spring 2006.

Undergraduate Courses

CET 250 Photogrammetry, Department of Civil and Environmental Technology, Kansas State University; Fall 2000.
GEOG 220 Environmental Geography I, Department of Geography, Kansas State University; Spring 2001, Fall 2001, Spring 2002.
GEOG 302 Cartography and Thematic Mapping, Department of Geography, Kansas State University; Fall 2001, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006
GEOG 508 Geographic Information Systems I, Department of Geography, Kansas State University; Spring 2003, Spring 2004, Spring 2006, Spring 2007

Guest Lectures

AGRON 655 Site Specific Agriculture, Department of Agronomy, Kansas State University; Spring 2003, Spring 2005, Spring 2006, Spring 2007; Topic: Satellite Remote Sensing.
ATM 558 Soil Erosion and Sediment Pollution Control Laboratory, Department of Biological and Agricultural Engineering, Kansas State University; Spring 2001; Topic: GIS/RS Laboratory.
DAS/DEN/GENAG 582 Natural Resources/Environmental Sciences Project, Kansas State University, Spring 2004; Topic: GIS and GIScience.
BAE 690/820 Non-Point Pollution Engineering, Department of Biological and Agricultural Engineering, Kansas State University; Fall 2000; Topic: Integration of GIS and RS in Water Quality Modeling.
BAE 530 Natural Resources Engineering, Department of Biological and Agricultural Engineering, Kansas State University; Spring 2001; Topic: GIS/RS Applications.
BIOL 822 Landscape Ecology, Department of Biology, Kansas State University; Fall 2003, Fall 2005; Topic: GIS Applications in Landscape Ecology.

Student Advising

PhD Students Advised

Kesarwani, Amit (PhD, Geography) – expected 2008
 Livingston, Troy (PhD, Geography) – expected 2008

PhD Committee Memberships

Ching'oma, Godfrey (PhD, Entomology, 2006)
 Conard, Jonathan (PhD, Biology) – expected 2008
 Dobbs, Mary (PhD, Geography, 2006) - Posthumous
 Flock, Brian (PhD, Biology, 2006)
 Ghimire, Kabita (PhD, Geography) – expected 2009
 Ik-Jae Kim (PhD, Biological & Agricultural Engineering, 2006)
 Koch, David (PhD, Geography) – expected 2008
 Laingen, Chris (PhD, Geography) – expected 2008
 Lee, Ming-chieh (PhD, Biological & Agricultural Engineering) – expected 2008
 Nachappa, Punya (PhD, Entomology) – expected 2009
 Parajuli, Prem (PhD, Biological & Agricultural Engineering, 2007)
 Presley, DeAnn (PhD, Agronomy, 2007)
 Semeao, Altair (PhD, Entomology) – expected 2009
 Sparks, Adam (PhD, Plant Pathology) – expected 2008
 Tinnon, Vicki (PhD, Geography) – expected 2006
 Tuppard, Pushpa (PhD, Biological & Agricultural Engineering, 2006)
 Vought, Tom (PhD, Geography) – expected 2009

Master's Students Advised

Bonagiri, Shravan (M.A., Geography) – expected 2009
 Breikreutz, Will (M.A., Geography, 2006); "Mapping Hantavirus Risk: A Reservoir Species Perspective."
 Brown, Tracy L. (M.A., Geography, 2004); "Classification of Potential Surface Water Pollution Sources in Kansas."
 Davis, Tony (M.A., Geography, 2005); "Estimating Soil Erosion Risk at Fort Riley, Kansas using the Revised Universal Soil Loss Equation (RUSLE) with a Military Training Intensity Factor."
 Dulin, Michael (M.A., Geography) – expected 2009
 Jensen, Clancy (M.A., Geography) – expected 2009
 Stansberry, Brooke (M.A., Geography, 2005); "Landscape Factors Influencing the Presence of Migrant Forest Songbirds in the Kansas Flint Hills."
 Vought, Thomas (M.A., Geography, 2006); "Assessing the Threat of Biological Terrorism to U.S. Agriculture."

Master's Committee Memberships

Burkitt, Jeffrey (Beau) (M.A., Geography) – expected 2008
 Brown, Michael (M.S., Geology, 2004)
 Christianson, Reid (M.S., Biological and Agricultural Engineering, 2003)
 Conard, Jonathan (M.S., Biology, 2005)
 Dobbs, Mary (M.A., Geography, 2003)
 Emerson, Lori (M.A., Geography, 2005)
 Ghimire, Kabita (M.A., Geography, 2006)
 George, Jacob (M.A., Geography) – expected 2008
 Graf, Nicholas (M.A., Geography) – expected 2008
 Gudelli, Srinivas (M.A., Geography) – expected 2008
 Kersey, Nathaniel (M.A., Landscape Architecture) – expected 2008
 Kim, Ik-Jae (M.S., Biological and Agricultural Engineering, 2003)
 Klein, Matthew (M.A., Landscape Architecture, 2004)
 Mong, Tony (M.S., Biology, 2005)
 Patterson, Judd (M.A., Geography, 2007)
 Peterson, Rorik (M.A., Geography) – expected 2008
 Reker, Ryan (M.A., Geography, 2004)
 Sweet, Jason (M.A. Geography, 2006)
 Zimney, Michael (M.A., Geography, 2003)

Graduate Certificate in GIScience Advisees

Brown, Mike (Geology, 2004)
 Bunger, Chad (Landscape Architecture/Regional and Community Planning, 2007)
 Castle, Eric (Landscape Architecture/Regional and Community Planning, 2007)
 Emerson, Lori (Geography, 2005)
 Ennahil, Said (Agronomy, 2007)
 Frank, Brian (Agronomy, 2007)
 Gao, Jincheng, (Geography, 2003)
 Ghimire, Kabita (Geography, 2006)
 Jasti, Srinivas (Computer and Information Science, 2004)
 Johnson, Tammi (Biology, 2005)
 Kettle, Nathan (Geography 2003)
 Kim, Ik-Jae (Biological and Agricultural Engineering, 2006)
 Koch, Matthew (Biology, 2005)
 Kroemer, Ryan (Geography, 2003)
 Lee, Ming-chieh (Biological and Agricultural Engineering, 2007)
 Malinga, Gilbert (Biological and Agricultural Engineering, 2007)
 Mohandass, Sivakumar (Landscape Architecture/Regional and Community Planning, 2006)
 Patterson, Judd (Geography, 2007)
 Peterson, Rorik (Geography, 2007)
 Presley, DeAnn (Agronomy, 2006)
 Reker, Ryan (Geography, 2004)
 Shabbeer, Shaik (Agricultural Economics, 2005)
 Tuppada, Pushpa (Biological and Agricultural Engineering, 2006)
 Zhang, Qi (Horticulture, 2007)

Undergraduate Certificate in GIS Advisees

Allen, Patrick (Geography, 2007)
 Burkitt, Jeffrey (Beau)(Geography, 2006)
 Donnelly, Christopher (Geography, 2007)
 Dulin, Michael (Geography, 2007)
 Fowles, Andrea (Geography, 2007)
 Gebhart, Matthew (Toby)(Geography, 2007)
 Lohrmeyer, Jake (Geography, 2007)
 Noll, Lance (Geography, 2007)
 Paris, Aaron (Geography, 2006)
 Riedel, William (Geography, 2007)
 Ronsick, David (Geography, 2006)
 Strouse, Doran (Geography, 2006)
 Thompson, Nicholas (Geography, 2006)
 Walker, Troy (Geography, 2006)

Service Activities

Professional Service

Member, AAG Student Awards and Scholarships Committee; 2007 – Present.
 Newsletter Editor, Water Resources Specialty Group, Association of American Geographers; 2002 – Present.
 Member, Association of American Geographers International Geographic Information Fund (AAG-IGIF) Award Selection Committee (2006-2007)
 Reviewer for Papers and Proceedings of the Applied Geography Conference (2004)
 Reviewer for Journal of Hydrometeorology, IEEE Transactions on Geoscience and Remote Sensing, Physical Geography, Papers of the Applied Geography Conference

Session Organizer, Applied Geography Conference; 2005, 2006
 Session Chair, Annual Meeting of the Association of American Geographers; 2001, 2005

State Service

State of Kansas GIS Policy Board, 2001-Present.
 State of Kansas GIS Technical Advisory Committee (TAC), Agriculture and Water Resources Subcommittees; 2005-Present.
 State of Kansas Nonpoint Source Pollution Control Program Advisory Committee; 2001-Present.

University Service

Director, Graduate Certificate in GIScience Program, Kansas State University; 2002 – Present
 Director, Undergraduate Certificate in GIS Program, Kansas State University; 2004 – Present
 Delegate, University Consortium for Geographic Information Science; 2004 – Present
 ESRI Authorized Introduction to ArcView Instructor; 2003 – 2005.
 Girls Researching our World (GROW) Summer Workshop Instructor, Women in Science & Engineering Program (WESP), Kansas State University; 2005-Present
 K-State Learning Enhancement Action/Resource Network (LEARN); 2000 – 2003
 Member, K-State All-University GIS Steering Committee; 2004 – Present
 Member, K-State GIS Technical Advisory Group; 2006 – Present
 Engineers & Scientists to the Rescue Instructor, Women in Science & Engineering Program (WESP), Kansas State University; 2005-2006

Department Service

Director, Geographic Information Systems Spatial Analysis Laboratory (GISSAL); 2002 – Present
 Kansas State University Open House; 2002 – Present
 Webmaster, Department of Geography; 2003 – Present

Memberships in Professional Organizations

American Society for Photogrammetry and Remote Sensing (ASPRS)
 American Society of Agricultural and Biological Engineers (ASABE)
 Association of American Geographers (AAG)
 National Council for Geographic Education (NCGE)
 National Geographic Society
 University Consortium for Geographic Information Science (UCGIS)

Summary Military Experience

Assistant Operations Officer (Captain), Engineer Brigade, 1 ID (Mech), Fort Riley, Kansas; January 1995 - August 1995.
Plans Officer (1st Lieutenant), Engineer Brigade, 1 ID (Mech), Fort Riley, Kansas; February 1994 - January 1995.
Executive Officer (1st Lieutenant), A Co., 1st Engineer Battalion, 1 ID (Mech), Fort Riley, Kansas; December 1992 - February 1994.
Platoon Leader (2nd Lieutenant), B Co., 1st Engineer Battalion, 1 ID (Mech), Fort Riley, Kansas; June 1992 - December 1992.
Platoon Leader (2nd Lieutenant), 55th Engineer Co. (MGB), 1 ID (Mech), Fort Riley, Kansas; May 1991 - June 1992.