

Qingmin Meng

Associate Director of Computing and Technology
Center for Applied GIScience
Department of Geography and Earth Sciences
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EDUCATION

PhD	School of Forestry and Natural Resources, University of Georgia Dissertation title: "Fine Spatial Resolution Forest Inventory for Georgia: Remote Sensing Based Geostatistical Modeling and K Nearest Neighbor Method"	2006
	Certificate in Geographic Information Science, Dept. of Geography, University of Georgia	2006
MS	Statistics, Department of Statistics, University of Georgia	2005
PhD	Department of Urban and Environmental Sciences, Peking University, China Dissertation title: "Spatial Agglomeration Study of Industry in Pearl River Delta under the Environment of Globalization"	2001
MS	Department of Geography, Lanzhou University, China	1997
BS	Department of Geography, Shandong Normal University, China	1994

PROFESSIONAL EXPERIENCE

Associate Director of Technology	Center for Applied GIScience, University of North Carolina – Charlotte	2008 –
Lecturer	Dept. of Geog. and Earth Sciences, University of North Carolina – Charlotte	2008 –
Associate Scientist	Center for Remote Sensing and Mapping Science University of Georgia	2007 –
Post-doc Researcher	School of Forestry and Natural Resources University of Georgia	2007–2008
Adjunct Instructor	Institute for Environmental and Spatial Analysis Gainesville State College	2007–2008
Lecturer	Shandong Economic University, China	1997–1998

RESEARCH INTERESTS

GIScience and open source GIS/geospatial technology
Remote sensing (fusion, segmentation, prediction, and mapping)
Geostatistics, spatial statistics, and spatial econometrics

Ecosystem modeling, landscape ecology, epidemiology, and disturbance
Forest and natural resources management and assessment

AWARDS

Travel Grant, The NSF Sponsored 2008 Summer Workshop on Spatial Filtering with the Eigenvector Approach, University of Texas at Dallas, June 16-20, 2008.

UCGIS Student Paper Award, 2006 Summer Assembly, University Consortium for Geographic Information Science (UCGIS), Vancouver WA, June 28 –July 1, 2006.

3rd place. Geostatistical Mapping for Large Area Forest Inventory Using Remote Sensing Data. 2005 American Society of Photogrammetry and Remote Sensing Mid-South Conference. Athens, GA. Nov. 10-11, 2005.

Travel Grants for attending a number of academic conferences 2003-2006, The University of Georgia Graduate School and School of Forestry and Natural Resources.

GuangHua Scholarship. Outstanding Graduate Research. Peking University, 2000.

SELECTED PUBLICATIONS

Books:

Liu, Zhi-Jun, David Percy, and **Qingmin Meng**. 2009. *GIS Programming: Concepts and Application*, Taylor and Francis (CRC Press): New York (Forthcoming).

Refereed Journal Papers:

Meng, Q., Cieszewski, C.J., and Strub, M.E. Spatial regression modeling of tree height-diameter relationships. *Canadian Journal of Forest Research* (Accepted).

Meng, Q., Borders, B.E., and Madden, M. 2009. High spatial resolution image fusion using regression kriging. *International Journal of Remote Sensing* (Accepted).

Meng, Q., Borders, B.E., Cieszewski, C.J., and Madden, M. 2009. Closest spectral fit for removing clouds and cloud shadows. *Photogrammetric Engineering & Remote Sensing*. 75(5): 569-576.

Meng, Q., Cieszewski, C.J., and Madden, M. 2009. Large area forest inventory using Landsat ETM+: A geostatistical approach. *ISPRS Journal of Photogrammetry and Remote Sensing*. 64(1): 27-36.

Lowe, R.C., Cieszewski, C.J., Liu, S., **Meng, Q.**, Siry, J.P, Zasada, M., Zawadzki, J. 2009. Assessment of Stream Management Zones and Road Beautifying Buffers in Georgia, USA, Based on Remote Sensing and Various Ground Inventory Data. *Southern Journal of Applied Forestry* 33(2): 91-100.

Meng, Q., Cieszewski, C.J., Madden, M., and Borders, B.E. 2007. A linear mixed-effects model of biomass and volume of trees using Landsat ETM+ images. *Forest Ecology and Management*. 244 (1-3): 93-101.

Meng, Q., Cieszewski, C.J., Madden, M. and Borders, B.E. 2007. K nearest neighbor method for forest inventory using remote sensing data. *GIScience and Remote Sensing*. 44(2): 149-165.

Meng, Q., and Cieszewski, C.J. 2006. Spatial clusters and variability analysis of tree mortality. *Physical Geography*. 27(6): 534-553.

Book Chapters:

Meng, Q. "Aerial Imagery: Data." In: B. Warf (Ed.) *Encyclopedia of Geography*. London: Sage. (Invited book chapter, forthcoming).

Meng, Q. and B.E. Borders. Geographic technology based approaches for forest resources management. In: M. Madden and E. Allen (Eds.) *Landscape Analysis Using Geospatial Tools: Community to the Globe*. Springer-Verlag (Forthcoming).

Meng, Q. 2009. DVD Chapter. In: M. Madden (Ed.) *Manual of Geographic Information Systems*. 1st edition, ASPRS Publisher.

In Review or Revision:

Meng, Q., and Meentemeyer, R.K. A spatial progress model for reconstructing the spread of emerging disease. *Geographical Analysis*

Meng, Q., and Borders, B.E. Comparisons of seven available spatial interpolation methods. *Cartography and Geographic Information Science*.

Meng, Q., Borders, B.E., and Bettinger, P. A prototype model for characterizing forest stands using open source GIS. *Journal of Forestry*.

Full Papers in Proceedings:

Meng, Q. 2006. Geostatistical prediction and mapping for large area forest inventory using remote sensing data. University Consortium for Geographic Information Science (UCGIS) 2006 Summer Assembly. Published online: <http://ucgis.org/summer2006/studentssessions.htm>.

Meng, Q., and Cieszewski, C.J. 2006. Using geo-spatial methods for derivation of fine resolution forest inventory in Georgia from ground inventory data and Landsat imagery. *Proceedings of SOFOR GIS, 5th Southern Forestry and Natural Resources GIS Conference*. p51-62.

Meng, Q., and Cieszewski, C.J. 2004. Modeling biomass and timber volume by using an allometric growth model from Landsat TM images. *Proceedings of 2nd International*

Conference on Forest Measurements and Quantitative Methods and Management & the 2004 Southern Mensurationists Conference. p15-27.

Meng, Q., Cieszewski, C.J., Lowe, R., and Zasada, M. 2003. A three-step approach to model tree mortality in the state of Georgia, *Proceedings of 5th Annual Forest Inventory and Analysis Symposium.* p96-101.

Meng, Q., and Cieszewski, C.J. 2003. Spatial pattern analysis of forest tree mortality in the state of Georgia, *Proceedings of 2003 Joint Conference of the Southern Mensurationists and Northeastern Mensurationists Organization.* p2-11.

Papers in Preparation:

Meng, Q. Large area fire severity modeling.

Meng, Q. Fire severity mapping with Landsat, MASTER, and AVIRIS.

Meng, Q. Landscape heterogeneity and emerging disease

TEACHING

Instructor:

GEOG 8030/6030 Spatial Analysis for Natural Resources Assessment. University of North Carolina –Charlotte, Spring 2009

ESCI 4010/5010 Fundamental of Remote Sensing. University of North Carolina – Charlotte, Spring 2009 (Class cancelled by drop/add deadline since only seven undergraduate students registered)

GEOG 1111 Introduction to Physical Geography. Gainesville State College, Spring 2008 and Fall 2007.

GEOG 1112 Introduction to Weather and Climate. Gainesville State College, Spring 2008 (Cancelled by the add/drop deadline since only five students registered)

FORS 7210: Spatial Analysis for Natural Resources (Advanced GIS). University of Georgia, Fall 2005

Development Economics, Shandong Economic University, China, 1997–1998

Co-instructor:

FORS 5650/7650 Aerial Photogrammetry in Forestry. Spring 2006

Undergraduate field trip for landscape, vegetation, hydrology, and wildlife changes in Sichuan Province, China. Lanzhou University, China, Summer 1996

Agricultural Geography. Lanzhou University, China, Spring 1996

Guest Lecturer:

ESCI 4000/5000 Environmental Modeling with GIS. *An overview of Geostatistics*. University of North Carolina – Charlotte, October 2008.

GEOG 8450 Geospatial Technologies for Landscape Analysis. *Model, Equation, Algorithm, and Landscape Analysis*, September 2006 and September 2007.

FORS4710/6710 Quantitative Decision Method for Forest Management. *Applications of Linear Programming and GIS for Forest Land Management*, November 2006.

ACADAMIC CONFERENCE PRESENTATIONS

- 2009 Quantifying and mapping impacts of sudden oak death mortality on fire severity at California costal ecoregion using two types of hyperspectral remote sensing data, *The 4th SOD Science Symposium*. Santa Cruz, California. June 15-18, 2009.
- 2009 Landscape and spatial heterogeneity of fire severity, *The 2009 US-IALE Symposium*. Snowbird, Utah. Apr. 12-16, 2009.
- 2009 A new method for spatial dispersal modeling of point-source pathogen, *AAG: 2009 Annual Conference*. Las Vegas, NV. March 22-26, 2009.
- 2008 GIS modeling of the sudden oak death in west coastal US, *SEDAAG: 2008 Annual Meeting*. Greensboro, NC. Nov. 22-25, 2008.
- 2007 Alternative methods for removing clouds and cloud shadows from satellite images, *American Society for Photogrammetry and Remote Sensing (ASPRS) 2007 Annual Conference*. Tampa, FL. May 7-11, 2007.
- 2007 Nearest neighbor imputation techniques: a powerful GIScience function, *The ASPRS 2007 Annual Conference*. Tampa, FL. May 7-11, 2007.
- 2007 Nearest neighbor and k nearest neighbor algorithms, *The 2007 AAG Conference*. San Francisco, CA. April 17-21, 2007.
- 2006 Comparisons of methods for large area forest inventory using remotely sensed data, *8th Annual Forest Inventory and Analysis Symposium*. Monterey, CA. Oct. 16-19, 2006.
- 2006 Spatial clusters, dependence and variation of tree mortality, *The 8th Annual Forest Inventory and Analysis Symposium*. Monterey, CA. Oct. 16-19, 2006.
- 2006 Spatial autoregressive modeling tree height-diameter relationships, *The 2006 Southern Mensurationists Conference*. Charleston, SC. Oct.10-13, 2006.
- 2006 Geostatistical prediction and mapping for large area forest inventory using remote sensing data, *2006 UCGIS Summer Assembly*. Vancouver, WA. June28-July 1. 2006.

- 2006 Using geo-spatial methods for derivation of fine resolution forest inventory in Georgia from ground inventory data and Landsat imagery, *The Fifth Southern Forestry and Natural Resource Management GIS Conference*. Asheville, NC. June 12-14, 2006.
- 2005 Discussion on the k nearest neighbor methods applied in remote sensing data, *The 2005 Southeastern Ecology and Evolution Conference*. Athens, GA. March 11-13, 2005.
- 2005 Fine scale forest inventory by using a geostatistical approach, *The 2005 Annual Conference of Southern Mensurationists*. Wilmington, NC. July 11-13, 2005.
- 2005 K nearest neighbor methods for forest inventory using remote sensing data, *The 2005 Mid-Southern Conference of American Society of Photogrammetry and Remote Sensing*. Athens, GA. November 10-11, 2005.
- 2005 Geostatistical mapping for large area forest inventory using remote sensing data, *The 2005 Mid-Southern Conference of American Society of Photogrammetry and Remote Sensing*. Athens, GA. November 10-11, 2005.
- 2004 Modeling biomass and timber volume from Landsat images, *The 2nd International Conference on Forest Measurements and Quantitative Methods and Management & 2004 Southern Mensurationists Conference*. Hot Springs, AR. June 15-18, 2004.
- 2004 Modeling biomass and timber volume by using an allometric growth model from Landsat images, *The 2004 Western Mensurationists' Conference*. Warm Springs, OR. June 20-22, 2004.
- 2003 Spatial pattern analysis of forest tree mortality in the state of Georgia, *The 2003 Joint conference of the Southern Mensurationists and Northeastern Mensurationist Organization*, Roanoke, VA. Oct. 5-7, 2003.
- 2003 A Three-step approach to model tree mortality in the state of Georgia, *The 5th Annual Forest Inventory and Analysis Science Symposium*. New Orleans, LA. Nov. 17-22, 2003.

PROFESSIONAL SERVICE

NSF Grant Proposal Reviewer

2009, Geography and Regional Science Program

Reviewer for Peer-Reviewed Journals

ISPRS Journal of Photogrammetry & Remote Sensing

IEEE Geoscience and Remote Sensing Letters

Remote Sensing of Environment

International Journal of Geographical Information Science

Computers, Environment and Urban Systems

Forest Ecology and Management

Annals of Botany
Applied Geography

Reviewer for International Conference

2008 IEEE International Geoscience and Remote Sensing Symposium (2008 IGARSS)

2009 IEEE International Geoscience and Remote Sensing Symposium (2009 IGARSS)

University Service

IT Committee Chair, Center for Applied GIS, University of North Carolina – Charlotte, 2008 –

Search Committee, Assistant or Associate Professor Position (Forest Economics), School of Forestry and Natural Resources, University of Georgia, 2006.

Consultant, “Mapping Soil Organic Carbon Using Color Aerial Photos.” Department of Crop & Soil Science, University of Georgia. Summer, 2004.

Consultant, “Herb Plant Classification.” Biomedical and Health Science Institute, University of Georgia. Spring, 2004.

PROFESSIONAL AFFILIATIONS

Association of American Geographers

American Society of Photogrammetry and Remote Sensing

Cartography and Geographic Information Society

CRMS-Affiliated Member of ISPRS (International Society for Photogrammetry and Remote Sensing)

United States Regional Association of the International Association of Landscape Ecology