CURRICULUM VITAE
(As of June 03, 2014)

Xuefei Hu, Ph.D.

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Education

Ph.D. Indiana State University

M.S. China University of Geosciences (Beijing)

B.S. China University of Geosciences (Wuhan)

Areas of Interest

- Remote Sensing;
- Geographic Information Science;
- Environmental Modeling;
- Land Use and Land Cover Change;
- Human-Environment Interactions;
- Air Pollution Monitoring & Public Health;
- Data Mining.

Professional Employment

Postdoctoral Fellow, Emory University
- Modeling $PM_{2.5}$ concentrations using spatial statistics with high spatial resolution AOD products.
- Modeling $PM_{2.5}$ concentrations using Geographically Weighted Model (GWR) with remotely sensed AOD
- Modeling $PM_{2.5}$ concentrations using Generalized Additive Model (GAM) with remotely sensed AOD
- Modeling $PM_{2.5}$ concentrations using Liner Mixed Effect Model with remotely sensed

AOD

Research Activities

R1. Refereed Journal Articles

Hu, X., Waller, L. A., Lyapustin, A., Wang, Y., and Liu, Y. (2014) 10 yr spatial and temporal trends of PM2.5 concentrations in the southeastern US estimated using high-resolution satellite data, *Atmos. Chem. Phys*. Accepted on May 14, 2014.

Chang, H., **Hu, X.,** and Y. Liu. 2013. Calibrating Remotely-sensed Aerosol Optical Depth for Predicting Daily Fine particular Matter Concentrations via Statistical Downscaling. *Journal of Exposure Science and Environmental Epidemiology,* Accepted on Nov. 19, 2013.

Weng, Q., **Hu, X**., Liu, H., and D. Quattrochi. 2013. Assessing Intra-Urban Surface Energy Fluxes Using Remotely Sensed ASTER Imagery and Routine Meteorological Data: A Case Study in Indianapolis, U.S.A. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing,* Accepted on Sep. 03, 2013.

Hu, X., Lance, W., Lyapustin, A., Wang, Y., Al-Hamdan, M., Crosson, W., Estes Jr, M., Estes, S., Quattrochi, D., Puttaswamy, S., and Y. Liu. 2014. Estimating Ground-level $PM_{2.5}$ Concentrations in the Southeastern U.S. using MAIAC AOD Retrievals and a Two-Stage Model. *Remote Sensing of Environment,* 140, 220-232.

Weng, Q., Xu, B., **Hu, X**., and H. Liu. Use of Earth Observation Data for Applications in Public Health. *Geocarto International,* Accepted on Aug. 21, 2013.

Puttaswamy, S., Nguyen, H., Braverman, A., **Hu, X.,** and Y. Liu. Statistical Data Fusion of Multi-Sensor AOD over the Continental United States. *Geocarto International,* Accepted on Jul. 18, 2013.

Fan, F., Deng, Y. **Hu, X.,** and Q. Weng. 2013. Estimating Composite Curve Number Using an Improved SCS-CN Method with Remotely Sensed Variables in Guangzhou, China. *Remote Sensing*, 5, 1425-1438.

Hu, X., Lance, W., Al-Hamdan, M., Crosson, W., Estes Jr, M., Estes, S., Quattrochi, D., Sarnat, J., and Y. Liu. 2013. Estimating Ground-level $PM_{2.5}$ concentrations in the Southeastern U.S. using Geographically Weighted Regression. *Environmental Research,* 121, 1-10.

Zhou, Y.Y., Q. Weng, K.R. Gurney, Y. Shuai, and **X. Hu**. 2012. Estimation of the relationship between remotely sensed anthropogenic heat discharge and building energy use, *ISPRS Journal of Photogrammetry and Remote Sensing,* 67, 65-72.

Weng, Q., Umamaheshwaran Rajasekar, and **X. Hu**. 2011. Modeling Urban Heat Islands and Their Relationship with Impervious Surface and Vegetation Abundance by Using ASTER Images. *IEEE*

Transaction on Geosciences and Remote Sensing, 49(10), 4080-4089.

Hu, X. and Q. Weng. 2011. Impervious surface area extraction from IKONOS imagery using an object-based fuzzy method. *Geocarto International,* 26(1), 3-20.

Hu, X. and Q. Weng. 2011. Estimating Impervious Surfaces from Medium Spatial Resolution Imagery: A Comparison between Fuzzy Classification and LSMA. *International Journal of Remote Sensing*, 32(20): 5645-5663.

Hu, X. and Q. Weng. 2010. Estimation of impervious surfaces of Beijing, China, with spectral normalized images using LSMA and ANN. *Geocarto International*. 25(3), 231-253.

Hu, X. and Q. Weng. 2009. Estimating Impervious Surfaces from Multi-Temporal ASTER Imagery by Using Two Neural Network Approaches. *Remote Sensing of Environment*, 113(10): 2089-2102.

Weng, Q., **Hu, X**., and H. Liu. 2009. Estimating impervious surfaces using linear spectral mixture analysis with multi-temporal ASTER images. *International Journal of Remote Sensing*, 30(18): 4807-4830.

Weng, Q. and **X. Hu**. 2008. Medium spatial resolution satellite imagery for estimating and mapping urban impervious surfaces using LSMA and ANN. *IEEE Transaction on Geosciences and Remote Sensing*, 46(8): 2397-2406.

Weng, Q., **Hu, X**. and D. Lu. 2008. Extracting impervious surface from medium spatial resolution multispectral and hyperspectral imagery: A comparison. *International Journal of Remote Sensing*, 29(11): 3209 - 3232.

R2. Book Chapters

Hu, X. and Q. Weng. 2013. Extraction of impervious surfaces from hyperspectral imagery: linear versus non-linear methods. In Wang, G. & Weng, Q. (ed.): *Remote Sensing of Natural Resources*. Boca Raton, FL: CRC/Taylor & Francis, pp. 141-150.

Weng, Q., **Hu, X**. and D. Lu. 2007. Extracting impervious surface from hyperspectral imagery with linear spectral mixture analysis. In Weng, Q. (ed.): *Remote Sensing of Impervious Surfaces*. Boca Raton, FL: CRC/Taylor & Francis, pp. 93-118.

R3. Refereed Papers in Progress

Hu, X., Lance, W., Lyapustin, A., Wang, Y., and Y. Liu. Improving Satellite-Driven $PM_{2.5}$ Models with MODIS Fire Counts in the Southeastern U.S. Submitted to *Journal of Geophysical Research-Atmospheres*, under review.

R4. National Conference Presentations

2012. **Hu, X.,** Vaidyanathan, A., Qualters, J. and Y. Liu. Assessment of Remotely Sensed AOD-based PM2.5 Data for the CDC Tracking Network (poster). <u>AGU Fall Meeting</u>, San Francisco, California, December 3-7.

2012. Puttaswamy, S., **Hu, X.,** Lyapustin, A., Wang, Y. and Y. Liu. Using MAIAC Aerosol Products to Estimate PM10 Concentrations in the Southeastern U.S. (poster). <u>AGU Fall Meeting</u>, San Francisco, California, December 3-7.

2011. **Hu, X**. and Y. Liu. Estimating Ground-Level PM2.5 Concentrations in the Southeastern U.S. using MAIAC AOD Retrievals. <u>AGU Fall Meeting</u>, San Francisco, California, December 5-9.

2010. **Hu, X**. and Y. Liu. Estimating Ground-level $PM_{2.5}$ concentrations in the Southeastern U.S. using Geographically Weighted Regression (poster). <u>AGU Fall Meeting</u>, San Francisco, California, December 13-17.

2010. **Hu, X**. and Q. Weng. Impervious surface extraction from medium spatial resolution imagery using the self-organizing map and multi-layer perceptron neural networks. <u>AAG Annual Convention</u>, Washington, D.C., April 14-18.

2009. **Hu, X**. and Q. Weng. Impervious surface extraction from IKONOS imagery using an object-based approach. <u>AAG Annual Convention</u>, Las Vegas, Nevada, March 22-27.

2009. **Hu, X**. and Q. Weng. Impervious surface extraction from IKONOS imagery using an object-based approach. <u>ASPRS Annual Convention</u>, Baltimore, Maryland, March 9-13.

2008. **Hu, X**. and Q. Weng. Estimation of Impervious Surface of Beijing, China, with Spectral Normalized Images using LSMA and ANN. <u>ASPRS Annual Convention</u>, Portland, Oregon, April 28-May 2.

2008. **Hu, X**. and Q. Weng. Use of Medium Spatial Resolution Satellite Imagery for Estimating and Mapping Urban Impervious Surfaces: Which Method is Better, LSMA or ANN? <u>AAG Annual Convention,</u> Boston, Massachusetts, April 15-19.

2007. **Hu, X**. and Q. Weng. Extracting impervious surface using spectral mixture analysis with multi-temporal ASTER images. <u>ASPRS Annual Convention</u>, Tampa, Florida, May 7-11.

2006. **Hu, X**. and Q. Weng. Extracting impervious surface from medium spatial resolution imagery using spectral mixture analysis and artificial neural networks. <u>ASPRS Annual Convention,</u> Reno, Nevada, May 1-5.

R5. Honors and Awards

Second Place in Student Honors Paper Competition, given by <u>Remote Sensing Specialty Group, the Association of American Geographer (AAG)</u>, 2009

Benjamin Moulton Award, given by <u>Department of Geography, Geology, and Anthropology, Indiana State University</u>, 2009

Outstanding Research Graduate Student, given by <u>Department of Geography, Geology, and Anthropology, Indiana State University</u>, 2007

Service

S1. Professional Membership

- American Association of Geographers (AAG)
- American Geophysical Union (AGU)

S2. Journal Reviewer

- Journal of Exposure Science and Environmental Epidemiology
- ISPRS Journal of Photogrammetry and Remote Sensing
- Entropy
- Environmental Management
- Environmental Pollution
- Atmospheric Environment
- Geocarto International
- Frontiers of Medicine
- Journal of Applied Remote Sensing
- Photogrammetric Engineering & Remote Sensing
- Aerosol and Air Quality Research
- Geoscience and Remote Sensing Letters, IEEE
- International Journal of Digital Earth
- International Journal of Remote Sensing Applications
- Science of the Total Environment