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EDUCATION

- 08/2000 – 12/2005 Ph.D. (Double Degree), Ecosystem and Remote Sensing, ESPM department, University of California, Berkeley, USA
- 01/2003 – 05/2005 M.A. (Double Degree), Statistics, University of California, Berkeley. USA
- 08/1997 – 07/2000 M.S., Mapping & Geography Information System, Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China
- 09/1992 – 07/1997 B.E., Precision Instruments and Measurement and Control Techniques, Tsinghua University, Beijing, China.

PROFESSIONAL EXPERIENCE

- 08/2011-now *Associate Professor*, Department of Geography, Geology & Planning, Missouri State University.
- 08/2006-08/2011 *Assistant Professor*, Department of Geography, Geology & Planning, Missouri State University.
- 08/2005-06/ 2006 *Postdoctoral Fellow*, Department of Geography, University of Nevada at Reno.
- 09/2002-05/2005 *Research Assistant*, Center for Assessment & Monitoring of Forest & Environmental Resources (CAMFER), UC Berkeley.
- 09/2000-08/2002 *Research Assistant*, Environmental Science, Policy, and Management, UC Berkeley.

TEACHING EXPERIENCE

- GRY 360 Interpretation of Aerial Photography, Fall, 2006-2011.
- GRY 551/GEO 551 Remote sensing, Fall, 2006-2011.
- GRY 552/GEO 572 Photogrammetry and LiDAR technology, Fall, 2006-2011.
- GEO 578 Digital Remote Sensing Image Processing, Fall, 2007-2011.
- GEO 655 Advanced Geospatial Applications: Environmental modeling with GIS & Remote Sensing, Fall, 2006
- GEOG 311 Maps & Image Interpretation, UNR, Reno. Spring, 2006
- ATDP 2530 Introduction to Computers, UC, Berkeley. Spring, 2005

PROFESSIONAL MEMBERSHIPS

- Association of American Geographers (AAG)
- American Society for Photogrammetry and Remote Sensing (ASPRS)
- International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)

HONORS AND AWARDS

2010	BancorpSouth Academic Spotlight, Missouri State University.
2009	Faculty Research Grant, Missouri State University, \$6900.
2009	Ecosystem Indicator Research Grant, Clark County, NV, \$111,597. Summer Faculty Fellowships \$6,000.
2008	Faculty Research Grant, Missouri State University, \$6290.
2008	Pillar of Learning Award, Missouri State University (Teaching Award).
2008	New Course Creation Award, Missouri State University (Teaching Award).
2006	Instructional Enhancement Grants (IEG), "Instructional Materials for Geographic Information Science Education", University of Nevada, Reno.
2006	
2005	The 3 rd place of the Student Honor Paper Competition from the Remote Sensing Specialty Group, the 101th AAG Annual Meeting, Denver, 2005.
2005	American Society for Photogrammetry and Remote Sensing (ASPRS) 2005 Student Travel Grants, Baltimore, MD, 2005.
2004	Travel award for the 100th AAG Annual Meeting, Philadelphia, 2004.

PUBLICATIONS (PEER REVIEWED)

- [1] **Xin Miao**, Xiaomin Qiu, Shuo-Sheng Wu, Jun Luo, Douglas R. Gouzie, "Developing Robust Procedures for Automated Sinkhole Extraction from LiDAR DEMs", in press, *Photogrammetric Engineering & Remote Sensing*, 2013.
- [2] **Xin Miao**, Jill S. Heaton, Songfeng Zheng, Hui Liu, "Applying Tree-based Ensemble Algorithms to Ecosystem Classification Using Multitemporal Multisource Remote Sensing Data", *International Journal of Remote Sensing*, 33(6):1823-1849, 2012.
- [3] **Xin Miao**, Jill S. Heaton, "Evaluating the Relative Importance of Spectral, Topographic, and Texture Features in the Ecosystem Classification", *GeoInformatics IEEE 2011*, p. 1-6.
- [4] **Miao, X.**, Rohit Patil, Jill S. Heaton, Richard C. Tracy, "Detection and Classification of Invasive Saltcedar through High Spatial Resolution Airborne Hyperspectral imagery ", *International Journal of Remote Sensing*, 32(8): 2131-2150, 2011.
- [5] **Xin Miao**, Jill S. Heaton, "A Comparison of Random Forest and Adaboost Tree in Ecosystem Classification in East Mojave Desert", *GeoInformatics IEEE 2010*, p. 1-6.

- [6] Jun Luo, Danlin Yu and **Xin Miao**, "Modeling Urban Growth Using GIS and Remote Sensing", *GIScience & Remote Sensing*, 2008, 45, No. 4, p. 426-442.
- [7] Pu, R., Gong, P., Tian, Y., **Miao, X.**, Carruthers, R., and Anderson, G.L., "Invasive Species Change Detection Using Artificial Neural Networks and CASI Hyperspectral Imagery", *Environmental Monitoring and Assessment*, 140: 15-32, 2008
- [8] Pu, R., Gong, P., Tian, Y., **Miao, X.**, Carruthers, R., and Anderson, G.L., "Using CASI Hyperspectral Data to Monitor Invasive Species: A Case Study of Saltcedar in Nevada, USA", *International Journal of Remote Sensing*, 29 (14): 3987-4011 , 2008
- [9] **Miao, X.**, Gong, P., Anderson, G.L. and Carruthers, R.I., "Applying Class-based feature extraction approaches for supervised classification of hyperspectral imagery", *Canadian Journal of Remote Sensing*, 33 (3): 162-175 JUN 2007.
- [10] **Miao, X.**, Gong, P., Swope, S., Pu, R. and Carruthers, R., Anderson, G., Heaton, J. and Tracy, C.R., "Estimation of yellow starthistle abundance through CASI-2 hyperspectral imagery using linear spectral mixture models", *Remote Sensing of Environment*, 101:329-341, 2006.
- [11] **Miao, X.**, Gong, P., Swope, S., Pu, R. and Carruthers, R., "Detection of Yellow Starthistle through Band Selection and Feature Extraction from Hyperspectral Imagery", *Photogrammetric Engineering & Remote Sensing*, 73 (9): 1005-1015 SEP 2007.
- [12] P. Gong, **Xin Miao**, Ken Tate, Charles Battaglia, and Gregory S. Biging, "Water Table Level in Relation to EO-1 ALI and ETM+ Data over a Mountainous Meadow in California", *Canadian Journal of Remote Sensing*, 30(5):691-696, 2004
- [13] **Xin Miao**, "The Computer Interface for Portable Field Instruments", *Microcomputer Applications*, in Chinese, 21(4):219-222, 2000

TECHNIQUE REPORTS, CONFERENCE PAPERS AND PRESENTATIONS

- [1] **Xin Miao**, Jill S. Heaton, "Ecosystem Classification Using Multi-source Remote Sensing Data Through AdaBoost Tree Algorithm", AAG ANNUAL MEETING, Seattle, Washington, 2011.
- [2] **Xin Miao**, Jill S. Heaton, "Final Vegetation Pilot GIS Data Technical Report", Ecosystem Indicators Project #2005_UNR_578, Deliverable D22, 2011.
- [3] **Xin Miao**, Jill S. Heaton, "Final Vegetation GIS Data Delivery Final Report", Ecosystem Indicators Project #2005_UNR_578-P, Deliverable D21, 2010.
- [4] **Xin Miao**, Jill S. Heaton, "Interim Vegetation GIS Data Delivery Technical Report", Ecosystem Indicators Project #2005_UNR_578-P, Deliverable D18, 2010.
- [5] **Xin Miao**, Jill S. Heaton, "A Comparison of Adaboost and Bagging Trees in Classification of Ecosystems in Clark County Nevada ", AAG ANNUAL MEETING, Washinton, DC, 2010.

- [6] Kevin R. Evans, James F. Miller and **Xin Miao**, "Origins of the 38th parallel structures", GSA NC and SC joint meeting 2010, Branson, Missouri.
- [7] **Xin Miao**, "A Comparison of Neural Networks and Support Vector Machines to Detect Invasive Plants Saltcedar Using Hyperspectral Remote Sensing Imagery", AAG ANNUAL MEETING, Las Vegas, NV, 2009.
- [8] Melida Gutierrez and **Xin Miao**, " Concentrations of Cu, Ba and as In Sediments and Their Association with the Presence of Mines In Northeast Chihuahua", GSA Joint Meeting, Houston, Texas, 2008.
- [9] **Xin Miao**, "Change Detection and Water Budget Modelling in the Middle Rio Conchos Basin in Mexico using Multi-time TM/ETM+ images", AAG ANNUAL MEETING, Boston, MA, 2008.
- [10] Lucas Rengstorf, Xin Miao, "Classifying Different Types of Impervious Surfaces in an Urbanizing Community", ", AAG ANNUAL MEETING, Boston, MA, 2008.
- [11] Kevin R. Evans, George H. Davis, **Xin Miao**, Kevin L. Mickus, James F., Miller¹, and Jared R. Morrow, "Re-evaluating the 38th Parallel Serial Impact Hypothesis", AGU Meeting, Fall, 2008.
- [12] **Xin Miao**, Melida Gutierrez, Elias Johnson, "Land Use and Land Cover Change Detection in the Rio Conchos Basin in Mexico using Multi-year TM images", AAG ANNUAL MEETING, San Francisco, CA, 2007
- [13] **Xin Miao**, Jill S. Heaton, "Classification and Change Detection of Salt Cedar through CASI-2 hyperspectral imagery in Lovelock, Nevada", ASPRS Annual Conference, Reno, NV. 2006
- [14] Rohit Patil, **Xin Miao**, Jill S. Heaton, Richard C. Tracy, "Detection and Classification of plant species through SpectTIR airborne hyperspectral imagery in Clark County, Nevada", ASPRS Annual Conference, Reno, NV. 2006
- [15] **Xin Miao**, Rohit Patil, Jill S. Heaton, Richard C. Tracy, "Classification of Saltcedar and Honey Mesquite through SpectTIR Hyperspectral imagery in Clark County, Nevada", AAG ANNUAL MEETING, Chicago, IL, 2006.
- [16] **Xin Miao**, "Estimation of Yellow Starthistle Cover through CASI-2 Hyperspectral Imagery Using Linear Spectral Mixture Models", the 101th AAG Annual Meeting, Denver, 2005.
- [17] **Xin Miao**, "Applying False Color Composite Visualization Techniques through CASI-2 Hyperspectral Imagery for Detecting Yellow Starthistle", ASPRS 2005 Annual Conference, Baltimore, MD, 2005.
- [18] **Xin Miao**, "Class-based Feature Extraction Approaches for Hyperspectral Images Classification", The 100th AAG Annual Meeting, Philadelphia, 2004.

SERVICES AND ACTIVITIES

- CPGIS (Chinese Professionals Geographic Information Systems) Newsletter Editor 2008-2011.
- Supervisor of ASPRS Student Chapter in Missouri State University, 2006-2011.
- Reviewer of Journal Papers for *Remote Sensing of Environment*
 - RSE-D-06-00602, " Using canopy reflectance models and spectral angles to assess potential of remote sensing to detect invasive species", 2006.
- Reviewer of Journal Papers for *ISPRS Journal of Photogrammetry and Remote Sensing*
 - PHOTO-D-11-00201, "Challenges and opportunities in remote sensing of C3 and C4 grass species discrimination and mapping", 2011.
 - PHOTO-D-11-00167, "Robust hyperspectral weed sensing over varying soil moisture conditions", 2011.
 - PHOTO-D-11-00163, "Hyperspectral Image Classification Using an Unsupervised Neuro-fuzzy System", 2011.
 - PHOTO-D-10-00278, "Predicting levels of crude protein, digestibility, lignin and cellulose in temperate pastures of Southern Australia using hyperspectral image data", 2011.
- Reviewer of Journal Papers for *IEEE Transactions on Geoscience and Remote Sensing*
 - TGRS-2011-00723, " Hyperion Image Optimization in Coastal Waters", 2011.
- Reviewer of Journal Papers for *International Journal of Remote Sensing (IJRS)*
 - TRES-PAP-2009-0259.R1, "Suppression of vegetation in multispectral remote sensing images (revised)", 2009.
 - TRES-PAP-2009-0259, "Suppression of vegetation in multispectral remote sensing images", 2009.
 - TRES-SIP-2009-0107, "Building detection aimed at urban population estimates", 2009.
 - TRES-PAP-2008-0661.R1, "A two-stage aerial images registration for spilled oil using invariants-based similarity and improved ICP (revised)", 2009.
 - TRES-PAP-2008-0262.R1, "Assessing the potential of hyperspectral remote sensing for the discrimination of grassweeds in winter cereal crops (revised)", 2009.
 - TRES-PAP-2008-0661, "A two-stage aerial images registration for spilled oil using invariants-based similarity and improved ICP", 2009.
 - TRES-PAP-2008-0262, "Assessing the potential of hyperspectral remote sensing for the discrimination of grassweeds in winter cereal crops", 2008.
 - TRES-SIP-2007-0107, "Segmentation of multispectral high-resolution satellite imagery using log Gabor filters", 2007

- TRES-PAP-2006-0124, "A comparative study of fuzzy and statistical learning algorithm based sub-pixel classifiers", 2006.
- Reviewer of Journal Papers for *Canadian Journal of Remote Sensing*
 - CJRS-07-0108 entitled "Noise estimation in a noise-adjusted principal component transformation and hyperspectral image restoration", 2007.
- Reviewer of Journal Papers for *International Journal of Digital Earth*
 - TJDE-2011-0147, " Crown Closure Estimation Using Landsat-7 ETM and IKONOS Satellite Data through Correlation Analysis", 2011.
- Reviewer of Journal Papers for *Computers and Electronics in Agriculture*
 - COMPAG-D-11-00226, " Detecting powdery mildew of winter wheat using leaf level hyperspectral measurements", 2011.