Lihong Su, Ph.D

Texas A&M University - Corpus Christi
Corpus Christi, TX 78412
Tel: (361)-825-2069
Email: Li.Su@tamucc.edu

Area of Expertise/Interest

- Remote sensing: Generating DEM from lidar points; Classification; Surface features extracting; Vegetation structure parameters retrieval; Radiative transfer modeling of vegetated surfaces on visible and thermal infrared bands.
- Spatial data handling: Spatial database design; Spatial data indexing; Spatial data analysis.
- Computer simulation in GIS and remote sensing

Education

Ph.D. Remote Sensing, Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China, 2000.

M.S. Geographic Information Systems, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, 1995.

B.S. Mathematics, Xinjiang University, Urumqi, China, 1986.

Employments in the USA

2008-present   Research Associate, Texas A&M University - Corpus Christi, Corpus Christi, TX , USA.

2007-2008   Research Associate, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA.

2004-2007   Research Associate, Montclair State University, Upper Montclair, NJ, USA

Selected Peer-Reviewed Papers

- **Su, L.**, Huang, Y., 2009, Support Vector Machine (SVM) Classification: Comparison of Linkage Techniques using a Clustering-Based Method for Training Data Selection. *GIScience & Remote Sensing*, (in press).
- **Su, L.**, 2009, Optimizing Support Vector Machine Learning by Using Pre-clustering for Semi-arid Vegetation Mapping, *Photogrammetry and Remote Sensing* , 64(4): 407-413p.
- **Su, L.**, Huang, Y., Chopping, M.J., Rango, A., Martonchik, J.V., 2009, An Empirical Study on the Utility of BRDF Model Parameters and Topographic Parameters for Mapping Vegetation in a Semi-arid Region with MISR imagery, *International Journal of Remote Sensing*, 30(13):3463-3483p.
- Chopping, M.J., Moisen, G., **Su, L.**, Laliberte, A., Rango, A., Martonchik, J.V. and Peters, D.P.C., 2008, Large Area Mapping of Southwestern forest Crown Cover, Canopy Height, and Biomass Using MISR. *Remote Sensing of Environment*, 112(5): 2051-2063p.
- Chopping, M.J., **Su, L.**, Rango, A., Martonchik, J.V., and Peters, D.P.C., 2008, Remote Sensing of

Woody Shrub Cover in Desert Grasslands using MISR with a Geometric-Optical Canopy Reflectance Model. *Remote Sensing of Environment*, 112(1):19-34p.

- **Su, L.**, Chopping, M.J, Rango, A., Martonchik, J.V., and Peters, D.P.C., 2007, Differentiation of Semi-Arid Vegetation Types Based on Multi-Angular Observations from MISR and MODIS. *International Journal of Remote Sensing*, 28(6):1419-1424p.
- **Su, L.**, Chopping, M.J, Rango, A., Martonchik, J.V., and Peters, D.P.C., 2007, Support Vector Machines for Recognition of Semi-arid Vegetation Types using MISR Multi-angle Imagery. *Remote Sensing of Environment*, 107(1-2):299-311p.
- Huang, Y., **Su, L.**, 2006. Derivation of Multi-resolution Representations of Linear Features Based on Bit-interleaving and Zoom Tries. *GIScience and Remote Sensing*, 10(3):197-217p.
- Chopping, M.J., **Su, L.**, Laliberte, A., Rango, A., Peters, D.P.C., and Martonchik, J.V., 2006. Mapping Woody Plant Cover in Desert Grasslands using Canopy Reflectance Modeling and MISR data. *Geophysical Research Letters*. 33(17):L17402.1-L17402.5.
- Chopping, M.J., **Su, L.**, Rango, A., Martonchik, J.V., and Peters, D.P.C., 2006. Mapping Shrub Abundance in Desert Grasslands using Geometric-Optical Modeling and Multi-angle Remote Sensing with CHRIS/proba. *Remote Sensing of Environment*, 104(1):62-73p.
- Tang, S.; Zhu, Q.; **Su, L.**, 2005. Thermal infrared TES algorithm Based on Corrected Alpha Difference Spectrum, *Journal of Infrared and Millmeter Waves*, 24(4):286- 290p.
- Chopping, M.J., **Su, L.**, Rango, A., and Maxwell, C., 2004. Modeling the Reflectance Anisotropy of Chihuahuan Desert Grass-shrub Transition Canopy-soil Complexes, *International Journal of Remote Sensing*, 25(14):2725-2745p.
- **Su, L.**, Li, X., Liang, S., Strahler, A., 2003, Simulation of Scaling Effects of Thermal Emission from a non-Isothermal Pixel with the Typical Three-Dimensional Structure. *International Journal of Remote Sensing*, 24(19):3743-3753p.

Selected Presentations

- **Su, L.**, Gibeaut, J., 2009, Algorithms for Extracting River Delta Features from Airborne Lidar Points, ASPRS 2009 Fall conference, November 16-19, 2009, San Antonio, Texas.
- **Su, L.**, Gibeaut, J., 2009, Extracting Surface Features of the Nueces River Delta Using Lidar Points, Texas Bays and Estuaries Meeting, April 28-30, 2009, Port Aransas, Texas.
- **Su, L.**, Song, C., 2008, Calculation of Foliage Clumping Index Using BRDF model and Spectral Variances of Components at Pixel Scale, April 15-19,2008, Boston, MA.
- **Su, L.**, Song, C., 2007, Derivation of Clumping Index via Using BRDF Models and MISR and MODIS Data. AGU Fall Meeting, Dec. 10–14, 2007, San Francisco, CA.
- **Su, L.**, and Chopping, M.J., 2006, Mapping Desert Grassland Community Type with EOS MISR Multi-angle Data and SVM algorithms. Invited poster for *NASA's Land Cover Land Use Change Science Team Meeting*, April 11-13, 2006.
- **Su, L.**, 2005, Remote Sensing Scale Problems and Computer Simulation Models, *2005 Annual Meeting of American Association of Geographer*, April 4-9, Denver, Colorado.
- **Su, L.** and Chopping, M.J., 2005, Improved Semi-Arid Vegetation Type Differentiation at Community Level Using MISR Multi-Angular Multi-Spectral Observations and SVM algorithms. *2005 Spring*

Conference of American Geophysics Union, May 23-27, New Orleans, Louisiana.

- **Su, L.** and Chopping, M.J., Rango, A., Martonchik, J.V., and Peters, D.P.C., 2005, Recognition of Semi-Arid Vegetation Types Based on MISR Multi-Angular Observations and Surface Anisotropy Patterns via Inversion of Bidirectional Reflectance Models and Support Vector Machines. *The 9th International Symposium on Physical Measurements and Signatures in Remote Sensing* (ISPMSRS). October 17-19, 2005, Beijing China.

Selected Projects

Geographic Information Systems

- "Spectral Database of China Typical Land Surface Objects", funded by the China High Technology Research and Development Program, 10/2001-04/2003. Co-Investigator.
- "Remote sensing Data and Model Integration for spectral data Web service", funded by the China Special Funds for Major State Basic Research Projects (G20000779), 09/2000-09/2002. Principle Investigator.
- Independent research. "Management and Usage of Metadata and Method Metadata in Resources and Environment Information System", 1996-1998.
- "Spatial Decision Support System for Assessment of Urban Investment", within state key projects of Eighth Five-Year-Plan funded by the Ministry of Science and Technology of China, 08/1994-06/1995. Principle Investigator.
- "Integrated System of Main Crop Yield Estimating with Remote Sensing and GIS", within state key projects of Eighth Five-Year-Plan funded by the Ministry of Science and Technology of China, 07/1993-08/1994. Co-Investigator
- "Management System of Territorial Resource Document", funded by the Plan Commission of Xinjiang Uygur Autonomous Region, 10/1991-04/1992. Principle Investigator.
- "Sustainable Population and Economic Development in Xinjiang", funded by the Science and Technology Commission of Xinjiang Uygur Autonomous Region, 06/1989-05/1990. Co-Investigator.
  Due to my contributions, I was awarded the third-award of "The Award for Science and Technology Progress" by Xinjiang Uygur Autonomous Region Government. 1991, Xinjiang, China
- "Xinjiang Resources, Environment & District Economy Information System", funded by the National Plan Commission of China and the Science and Technology Commission of Xinjiang Uygur Autonomous Region, 08/1986-12/1988. This software package was affirmed by the China National Plan Commission to be "National Resources, Environment & District Economy Information System PC version" for all provinces to use in China.
  Due to my contributions, I was awarded the second-award of "The Award for Science and Technology Progress" by Xinjiang Uygur Autonomous Region Government. 1989, Xinjiang, China.

Remote Sensing

- "Impacts of Land-cover/land-use change on terrestrial ecosystem carbon budget", funded by NASA, 04/2007-10/2008. Co-Investigator.
- "Quantifying Changes in Carbon Pools with Shrub inversion of Desert Grasslands Using Multi-angle Data from EOS Terra and Aqua"(NASA EOS/03-0183-0465), funded by NASA NRA-03-OES-02

program,USA,07/2004-03/2007. Co-Investigator.

- "Study on Remote Sensing Computer Simulation and Scale Translation based on Architecturally Realistic Scene of Remote Sensing Pixel." (40371078), funded by National Natural Science Foundation of China, 01/2004-12/2006. Principle Investigator.
- "Research on Scale Problem and Scale Translation in Remote Sensing", funded by the China Special Funds for Major State Basic Research Projects (G20000779), China, 09/2002-07/2004. Co-Principle Investigator.
- "Study on Land Surface Hotspot with Hotspot Satellite Data" funded by National Natural Science Foundation of China, 01/1999-12/2001. Co-Investigator.
- "Geometric-Optical Modeling of Directional Thermal Radiance for Improvement of Land Surface Temperature Retrievals from MODIS, ASTER, and Landsat-7 Instruments" funded by NAG 5-7217 and NAG 5-31369, USA, 10/1999-03/2000.
- "Computer Simulation of Directional Thermal Radiance from No isothermal Surfaces", funded by the China National Key-Important Basic Research Program (95-Y-38), 04/1998 – 09/1999. Principle Investigator.
- "Research on Extracting of BRDF Information of Ground Target from VEGETATION Data and Validation of BRDF Models", funded by CNES (French Space Agency), 07/1998-03/2000.

Technical Skills

- Proficient in remote sensing, GIS and database software, such as Erdas/Imagine, IDRISI, PCI, ArcGIS, Oracle/Spatial, SQLServer.
- Skilled in programming using C/C++, C#/Java, MATLAB, IDL, Visual BASIC and PASCAL.
- Proficient in Unix/Linux/Windows.

Professional Services

- Member of Technical Program Committee for International Geoscience and Remote Sensing Symposium 2009, Cape Town, South Africa; 2008, Boston, MA, USA; and 2006, Denver, Colorado, USA.
- Reviewer for international remote sensing journals

    IEEE Transaction of Geoscience and Remote Sensing
    IEEE Transaction of Geoscience and Remote Sensing Letter
    International Journal of Remote Sensing
    Photogrammetry Engineering and Remote Sensing
    Remote Sensing of Environments
    ISPRS Journal of Photogrammetry and Remote Sensing
    International Journal of Applied Earth Observation and Geoinformation