

Dr. Ludmila Monika Moskal

School of Environmental and Forest Sciences (SEFS), College of the Environment (C of E)
University of Washington (UW), Box 352100, Seattle WA 98195-2100

1.1 EDUCATION

- 2005 **PhD** Doctorate in Philosophy, Geography Honors (GPA 4.0), Department of Geography, The University of Kansas, Lawrence, KS
- 2000 **MS** Master of Science, Geography Honors (Specialization: Remote Sensing and GIS), Department of Geography, University of Calgary, Calgary, AB, Canada
- 1996 **BS** Bachelor of Environmental Studies, Geography Honors, Department of Geography, University of Waterloo, Waterloo, ON, Canada

1.2 EMPLOYMENT

- 9/2013 – Present **Associate Professor** (Assistant Professor 2006-2013) of Remote Sensing
Director [Precision Forestry Cooperative](#)
Executive Director [Remote Sensing and Geospatial Analysis Laboratory](#)
Affiliate Faculty
- NFS-IGERT, Bioresource-Based Energy for Sustainable Societies Program
 - Interdisciplinary Ph.D. Program in Urban Design and Planning
- 8/2003 – 05/2006 **Assistant Professor** of Remote Sensing and GIS, Department of Geography, Geology and Planning, Missouri State University (MSU), Springfield, MO
Executive Director Remote Sensing and Geospatial Analysis Laboratory, Department of Geography, Geology and Planning, MSU, MO
- 8/2000 – 8/2003 **Research Project Manager**, Kansas Applied Remote Sensing Program (KARS), University of Kansas, Lawrence, KS
Graduate Research Assistant
Aerospace Engineering, University of Kansas, Lawrence, KS
- 1/2000 – 8/2000 **Project Supervisor for Foothills Model Forest Biodiversity and Grizzly Habitat Mapping Projects**, Department of Geography, University of Calgary, Calgary, AB

1.3 AWARDS AND RECOGNITION

- 2009 Exemplary Contribution to the College in Faculty Teaching, College of Forest Resources, UW
- 2009 Nominated for Marsha L. Landolt Distinguished Graduate Mentor Award, UW
- 2009 American Society for Photogrammetry and Remote Sensing (ASPRS) Ford Bartlett Award
- 2003 NASA-MSU Professional Enhancement Award

1.4 PROFESSIONAL AFFILIATIONS

- 2001 – present Sigma Xi, Scientific Research Society
- 1999 – present Association of American Geographers
- 1999 – present American Society for Photogrammetry and Remote Sensing

1.5 MENTORSHIP AND TEACHING

Current Chair and Adviser		Completed Chair and Adviser	
Post-Doctoral Fellows	2	Post-Doctoral Fellows	3
PhD Students	1	PhD	4 (2 co-advised)
MS Students	3	MS Students	7 (4 at MSU)
Visiting PhD Student Fellows	1	Undergraduate students	17 (10 at MSU)
Undergraduate Students	1		

Courses

[ESRM430 Remote Sensing of the Environment](#), [ESRM459](#) Wildlife Conservation in the PNW Ecosystems, [ESRM304](#) Environmental & Resource Assessment

1.6 RESEARCH FUNDING

Example of funding sources present and past include: NSF, NASA, USDA Forest Service, NPS, DNR, BLM, TNC

Total Funding = \$3.45 Million

Total External Funding	\$3.34 Million
Internal Funding	\$1.6K

In addition to internal and external sponsored research, by engaging with industry and professional organizations I have been able to generate **\$1.37 Million** of in-kind and equipment support, mainly consisting of specialized aerial remotely sensed data often specifically flown for my research and specialized field equipment for remote sensing research.

1.7 PUBLICATIONS

Total peer reviewed journal publication = 28 (listed below are only publications from 2009 - present)

Total peer reviewed proceeding paper = 11 (none listed here)

- Hermosilla, T., Ruiz, L., Kazakova, A. Coops, N. and **L. M. Moskal**, in press 2013. Estimation of forest structure and canopy fuel parameters from small-footprint full-waveform LiDAR data. *International Journal of Wildland Fire*, [p. 30](#).
- *Richardson, J. and **L. M. Moskal**, in press 2013. Uncertainty in Urban Forest Canopy Assessment: Lessons from Seattle, WA USA, *Urban Forestry and Urban Greening*, [p. 12](#).
- Halabisky, M., M. Hannam, A. L. Long, C. Vondrasek and **L. M. Moskal**, 2013. The Sharper Image: Hyperspatial Remote Sensing in Wetland Science. *Wetland Science and Practice*, June 2013 Issue, 10p.
- Moskal, L.M.** and M. Jakubauskas, 2013. Monitoring post disturbance forest regeneration with hierarchical object-based image analysis, in *Forests, Special Issue: LiDAR and Other Remote Sensing Applications in Mapping and Monitoring of Forests Structure and Biomass*; [4\(4\): 808-829](#).
- Gmur, S., D. Vogt, D. Zabowski, and **L. M. Moskal**, 2012. Hyperspectral Characterization of Soil Series, Nitrogen and Carbon, *Sensor*, [12\(8\):10639-10658](#).
- *Zheng, G., **Moskal, L. M.** and S-H. Kim, 2013. Retrieval of effective leaf area index in heterogeneous forests with terrestrial laser scanning, *IEEE Transactions on Geoscience and Remote Sensing*. [51\(2\), 777-786](#).
- *Zheng, G. and **L. M. Moskal**, 2012. Computational-Geometry-Based Retrieval of Effective Leaf Area Index Using Terrestrial Laser Scanning, *IEEE Transactions on Geoscience and Remote Sensing* [50\(10\); 12p](#).
- *Zheng, G. and **L. M. Moskal**, 2012. Leaf Orientation Retrieval from Terrestrial Laser Scanning Data, *IEEE Transactions on Geoscience and Remote Sensing*, [50\(10\), 10p](#).
- *Zheng, G. and **L. M. Moskal**, 2012. Spatial variability of terrestrial laser scanning based leaf area index, *International Journal of Applied Earth Observation and Geoinformation*, [19, 226-237](#).
- *Vaughn, N., **L. M. Moskal** and E.C. Turnblom, 2012. Tree Species Detection Accuracy with Airborne Waveform LiDAR, **Special Issue on Laser Scanning in Forests, *Remote Sensing*, [4\(2\), 377-403](#).
- Moskal, L. M.** and Zheng, Guang. 2012. Retrieving Forest Inventory Variables with Terrestrial Laser Scanning (TLS) in Urban Heterogeneous Forest. *Remote Sensing*, [4\(1\), 1-20](#).
- Moskal, L.M.**, Styers, D. M. and M. Halabisky, 2011. Monitoring Urban Forest Canopies Using Object-Based Image Analysis and Public Domain Remotely Sensed Data. **Remote Sensing Special Issue on Urban Remote Sensing, [3 \(10\); 2243-2262](#).
- *Richardson, J. J. and **Moskal, L. M.**, 2011. Strengths and limitations of assessing forest density and spatial configuration with aerial LiDAR, *Remote Sensing of Environment*, [115\(10\); 2640-2651](#).
- *Halabisky, M., **L. M. Moskal** and S. A. Hall, 2011. Object-Based Classification of Semi-Arid Wetlands, *Journal of Applied Remote Sensing*, [5\(05351\); p.13](#).
- *Vaughn N., **L. M. Moskal** and E. Turnblom, 2011. Fourier transformation of waveform LiDAR for species recognition, *Remote Sensing Letters*, [2\(4\); 347-356](#).
- *Erdody T. and **L. M. Moskal**, 2010. Fusion of LiDAR and Imagery for Estimating Forest Canopy Fuels, *Remote Sensing of Environment*, [114\(4\); 725-737](#).
- *Kato, A. **Moskal L.M.**, Schiess, P. Swanson, M., Calhoun, D. and W. Stuetzle, 2009. Capturing Tree Crown Formation through Implicit Surface Reconstruction using Airborne LiDAR Data, *Remote Sensing of Environment*, [113\(6\); 1148-1162](#).
- *Zheng, G. and **L. M. Moskal**, 2009. Retrieving Leaf Area Index (LAI) Using Remote Sensing: Theories, Methods and Sensors. *Sensors*, [9\(4\):2719-2745](#).
- *Richardson, J., **Moskal, L. M.** and S. Kim, 2009. Modeling Approaches to Estimate Effective Leaf Area Index from Aerial Discrete-Return LiDAR, *Agricultural and Forest Meteorology*, [149, 1152-1160](#).

Peer reviewed book chapters

- Moskal, L.M.**, M.D. Dunbar, M.E. Jakubauskas, 2004. Visualizing the forest: a forest inventory characterization in the Yellowstone National Park based on geostatistical models, in *A Message From the Tatras: Geographical Information Systems & Remote Sensing in Mountain Environmental Research*, Widacki, W., Bytnerowicz, A. & Riebau, A. (eds). Institute of Geography & Spatial Management of the Jagiellonian University in Krakow & the USDA Forest Service: 219-232.

*Dr. Moskal's advisee co-author

1.8 PARTIAL LIST OF CONFERENCE AND WORKSHOP PARTICIPATION**35 TOTAL SINCE 1998 – showing only invited international since 2009**

2013	Keynote Speaker 2013 SilviLaser, China - LiDAR Remote Sensing for Vegetation Studies
2012	Invited Workshop Instructor - IUFRO Task Force on Education in Forest Science Learning Initiative, Department of Forest Management, Geomatics and Economics Faculty of Forestry Warsaw University of Life Sciences, Poland
2011 and 2010	Invited Workshop Instructor - Applications of GIS and Remote Sensing, University of Nairobi, Kenya