

CURRICULUM VITAE

Julia Linke

BSc, MSc, PhD

Department of Ecology & Evolutionary Biology

University of Toronto, 25 Harbord St., Toronto, M5S 3G5, Canada

Phone: (416) 946-7886, Fax: (416) 978-3542

E-mail: julia.linke@utoronto.ca

Current as of September 18, 2013

1.0 UNIVERSITY EDUCATION AND APPOINTMENTS

1.1 University Degrees

Ph.D. (Geography), Landscape Ecology, University of Calgary, 2005 - 2010

M.Sc. (Geography), Remote Sensing, University of Calgary, 2000 - 2003

B.Sc. (Forestry), Wildlife and Environ. Studies, University of New Brunswick, 1994 - 1999

1.2 Scholarships

Award	Description of Award	Year Awarded
2010 Best Thesis Award	Canadian Remote Sensing Award for Best PhD Thesis in Canada (non-monetary)	2011
2010 ERDAS Award	Third Place for Best Scientific Paper in Remote Sensing: 200\$	2010
NSERC Postdoctoral Fellowship	National Scholarship Competition: 40,000 \$/ year for two years	2010
Geography Graduate Student Award	Award for Best Oral Presentation at the 46 th Geography Department Conference: book	2009
Geography Graduate Student Award	Award for Academic Excellence and Leadership to the Graduate Student Community: book	2009
ESRI Canada Scholarship Award 2008	Student Award for strong academic interest in GIS: software & 2000,- \$	2008
Geography Graduate Student Award	Award for Outstanding Contributions to Departmental Community Life: book	2007
Graduate Travel Award	University of Calgary Graduate Student Association Award: 1200,- \$	2007
Alberta Ingenuity Award	Provincial Scholarship: 26000 \$/ year for five years	2006

Award	Description of Award	Year Awarded
Dean's Entrance Reward	Graduate Award by the University of Calgary: 5000,-\$	2005
Research Excellence Award	Graduate Award by the University of Calgary: 3000,-\$	2005
Canadian Forest Service Award	National Scholarship Competition: 5,000 \$/ year for two years	2005
NSERC PGS B	National Scholarship Competition: 21,000 \$/ year for two years	2005
Graduate Conference Travel Award	University of Calgary Graduate Student Association Award: 1000,- \$	2002
GSA Conference Travel Award	University of Calgary Graduate Student Association Award: 500,- \$	2002
Alberta Graduate Student Scholarship	Provincial Scholarship 2000,- \$	2001
Alberta Ingenuity Scholarship	Provincial Scholarship: 20000 \$/ year for two years	2001
NSERC PGS A Scholarship	National Scholarship Competition: 17,000 \$/ year for two years	1999
Canadian Forest Service	National Scholarship Competition: 5000,-	2000
Schlich Memorial Award	University of New Brunswick Award: \$150	1999
David J.Cartwright Memorial Award	University of New Brunswick Award: \$800	1999
G.D. Estey Memorial Prize	University of New Brunswick Award: book award	1999
Best Field Biologist 1998	University of New Brunswick/Biology Department Award: non-monetary	1998
H. Douglas Long Memorial Scholarship	University of New Brunswick Award: \$1000	1998
Mr. & Mrs. Conrad J. Osman Scholarship	University of New Brunswick Award: \$900	1997
W.T. Whitehead Memorial Prize	University of New Brunswick Award: \$200	1997
C.D. Richards Scholarship	University of New Brunswick Award: \$500	1996
B.W. Flieger Memorial Prize	University of New Brunswick Award: \$1500	1995

1.3 Academic Appointments

NSERC Postdoctoral Fellow, Department of Ecology and Evolutionary Biology, University of Toronto, Mentor: Dr. Marie-Josée Fortin, 2011 - present

Sessional Lecturer, Department of Geography, University of Calgary, 2004

Teaching Assistant, Department of Geography, University of Calgary, 2006

Sessional Lecturer, Department of Geography, University of Calgary, 2007

2.0 TEACHING TRAINING AND EXPERIENCE

2.1 Teaching Training

Instructional Skills Workshop (ISW) Participant, University of Calgary, May '06

2.2 Courses Taught

Geog 537: GIS in Forest Ecology, senior undergraduate/graduate level, Aug. '04

Geog 439 Laboratory: Analytical Methods in Geography II, senior undergraduate level, Jan. '06

Geog 439: Analytical Methods in Geography II, senior undergraduate level, Jan. '07

3.0 ACADEMIC CONTRIBUTIONS

3.1 Journal Publications

Linke, J., McDermid, G.J., Fortin, M.-J., and G.B. Stenhouse. 2013. Relationships Between Grizzly Bears and human disturbances in a rapidly changing multi-use forest landscape. *Biological Conservation* (166) 54-63 DOI: 10.1016/j.biocon.2013.06.012

Linke J. and G.J. McDermid. 2012. Monitoring landscape change in multi-use west-central Alberta, Canada using the disturbance-inventory framework. *Remote Sensing of Environment* (125) 112-124 DOI: 10.1016/j.rse.2012.07.011

Castilla, G., Linke J., McLane, A.J., and G.M. McDermid. 2011. Quantifying bias in pattern indices extracted from spatially offset landscape samples. *Canadian Journal of Forest Research* 41 (10) 2090-2096, DOI: 10.1139/x11-123

Linke J. and G.J. McDermid. 2011. A conceptual model for multi-temporal landscape monitoring in an object-based environment. *IEEE – Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 4(2):265-271

Linke, J., McDermid, G.J., Laskin, D.N., McLane A.J., Pape, A., Cranston, J., Hall-Beyer, M. and S.E. Franklin. 2009. A disturbance-inventory framework for flexible and reliable landscape monitoring. *Photogrammetric Engineering and Remote Sensing* 75 (8): 981-995
ERDAS Third Place Award for Best Scientific Publication in Remote Sensing 2010

Hilker, T., Wulder, M.A., Coops, N.C., Linke, J., McDermid, G., Masek, J., Gao, F., & White, J.C. 2009. A new data fusion model for high spatial- and temporal- resolution mapping of forest disturbance based on Landsat and MODIS. *Remote Sensing of Environment* 113: 1613-1627

Linke, J., McDermid, G.J., Pape, A., McLane A.J., Laskin, D.N., Hall-Beyer, M. and S.E. Franklin. 2009. The influence of patch-delineation mismatches on multi-temporal

landscape pattern analysis. *Landscape Ecology*. 24(2): 157-170. DOI: 10.1007/s10980-008-9290-z

Castilla, G., Larkin, K., Linke, J., and G. Hay. 2009. The impact of thematic resolution on the patch mosaic model of natural landscapes. *Landscape Ecology*. 24 (1): 15-23 DOI: 10.1007/s10980-008-9310-z

McDermid, G.J., Linke, J., Pape, A., Laskin, D.N., McLane A.J., and S.E. Franklin. 2008. Object-based approaches to change detection and thematic map update: challenges and limitations. *Canadian Journal of Remote Sensing*. 34 (5): 462-466

Linke, J., Franklin, S.E., Hall-Beyer, M. And G. Stenhouse. 2008. Effects of cutline density and land-cover heterogeneity on landscape metrics in western Alberta. *Canadian Journal of Remote Sensing*. 34 (4): 390-404.

Linke, J and S. E. Franklin. 2006. Interpretation of landscape structure gradients based on satellite image classification of land cover. *Canadian Journal of Remote Sensing*. 32 (6): 367-379.

Wulder, M.A., Franklin, S.E., White, J. C., Linke, J. and S. Magnussen. 2006. An accuracy assessment framework for large area land cover classification products derived from medium resolution satellite data. *International Journal of Remote Sensing* 27 (4): 663-683.

Linke, J., S.E. Franklin, F. Huettmann and G.B. Stenhouse. 2005. Seismic cutlines, changing landscape metrics and grizzly bear landscape use in Alberta. *Landscape Ecology* 20: 811-826.

Huettmann, F, and J. Linke. 2003. An automated method to derive habitat preferences of wildlife in GIS and telemetry studies: A flexible software tool and examples of its application. *European Journal of Wildlife Research* 49: 219-232

Wiese, F.K., W.A. Montevecchi, G. Davoren, F. Huettmann, A.W. Diamond and J. Linke. 2001. The necessity to monitor the impacts of offshore oil platforms on seabirds. *Marine Pollution Bulletin* 42: 1285-1290.

3.2. Book Chapters

Linke, J., Betts, M., Lavigne, M. And S.E. Franklin. 2007. Chapter 1: Structure, Function and Change of Forest Landscapes. *In* Franklin, S.E., Wulder, M.A. *Understanding Forest Disturbance and Spatial Pattern: Remote Sensing and GIS approaches*. Taylor and Francis – CRC Press.

3.3 Conference Proceedings

Linke, J. and G. J. McDermid. 2009. Spatially consistent landcover maps for reliable landscape monitoring: an object-based disturbance-inventory approach. Pages 249- 255 In Civco, D.L. (Ed.). *Conference Proceedings of MultiTemp 2009: the Fifth International Workshop on the Analysis of Multi-temporal Remote Sensing Images held in Mystic, Connecticut July 28-30, 2009*

Linke, J., Pape, A. , Cranston, J., McDermid, G., Hall-Beyer, M., Franklin, S.E., and G.B. Stenhouse. 2007. Changes in female grizzly bear (*Ursus arctos*) homerange composition and configuration in the multi-use Albertan Rocky Mountain Foothills, Canada. Pages 369-370 In Bunce, R.G.H., Jongman, R.H.G., Hojas, L. and Weel, S. (Eds). *25 Years*

Landscape Ecology: Scientific Principles in Practice. proceedings of the 7th IALE World Congress 8-12 July Wageningen, the Netherlands, IALE Publication series 4

- Huettmann, F. and J. Linke. 2003. Assessment of different link functions for modeling binary data to derive sound inferences and predictions. *In* Kumar, V., Mavrilova, M.L., Tan, C.J.K., and P.L'Ecuyer (Eds). Computational Science and its Applications - ICCSA 2003. International Conference Proceedings, Montreal, Canada. Part III. Springer-Verlag Berlin.
- Huettmann, F. and J. Linke. 1999. Abstract: Interactions between mantled howling monkeys (*Alouatta palliata*) and neotropical birds in a fragmented forest habitat on Ometepe Island, Nicaragua. American Association of Physical Anthropologists, Supplement 28 to the American Association of Physical Anthropology Annual Meeting Issue, p. 156.

3.4 Conference Presentations

- Linke, J., McDermid, G.J., Fortin, M.-J., and G.B. Stenhouse. 2013. Multi-annual landscape monitoring using the disturbance-inventory framework and its application to grizzly bears in west-central Alberta. Multitemp 2013: Seventh International Workshop on the Analysis of Multi-temporal Remote Sensing Images. Banff, Alberta. June 25-27, 2013.
- Linke, J., McDermid, G.J., Fortin, M.-J. 2013. The disturbance-inventory framework for landscape monitoring: foundations and application to grizzly bear habitat. 33rd Canadian Symposium on Remote Sensing. Ottawa, Ontario. June 11-14, 2012.
- Linke, J. and McDermid, G. 2011. Oral Presentation: A disturbance-inventory framework for annual landscape monitoring: application in West-Central Alberta. 32nd Canadian Symposium on Remote Sensing. Sherbrooke, Quebec, June 13 -6, 2011.
- Linke J. and McDermid G. 2009. Oral Presentation: Spatially consistent landcover maps for reliable landscape monitoring: an object-based disturbance-inventory approach. Multitemp 2009: Fifth International Workshop on the Analysis of Multi-temporal Remote Sensing Images. Mystic, Connecticut. July 28-30, 2009.
- Castilla, G., Linke, J. and G.J. McDermid. 2009. Poster Presentation: Semiautomated generation of a multi-temporal disturbance inventory with the Landcover Change Mapper (LCM). Multitemp 2009: Fifth International Workshop on the Analysis of Multi-temporal Remote Sensing Images. Mystic, Connecticut. July 28-30, 2009.
- Linke J. and McDermid G. 2009. Poster Presentation: Multi-temporal data handling: procedures for automated sliver-free thematic map updating and backdating. Multitemp 2009: Fifth International Workshop on the Analysis of Multi-temporal Remote Sensing Images. Mystic, Connecticut. July 28-30, 2009.
- Sobol A., Linke J., McDermid G.J., Boulanger J., and G. Stenhouse. 2009. Oral Presentation: The impact of sampling intensity and failed GPS acquisition on animal home range estimation. 30th Canadian Symposium of Remote Sensing: Bridging Excellence, Lethbridge, Alberta, June 22-25 2009.
- McLane, A.J., Hird, J., Linke J., Castilla G. and G. J. McDermid. 2009. Poster Presentation: Influence of the extent of sample landscapes on the accuracy of human footprint statistics in the context of biodiversity monitoring. 30th Canadian Symposium of Remote Sensing: Bridging Excellence, Lethbridge, Alberta, June 22-25 2009.

- Linke J., Castilla G., McLane A.J., and G.J. McDermid. 2009. Poster Presentation: Effect of photoplot displacement on landscape pattern analysis: implications for biodiversity monitoring in Alberta. 30th Canadian Symposium of Remote Sensing: Bridging Excellence, Lethbridge, Alberta, June 22-25 2009.
- Linke J. and McDermid G. 2009. Oral Presentation: Tracking Annual Landscape Change in the Rocky Mountain Foothills of Alberta: An Application of the Disturbance-Inventory Monitoring Framework. 30th Canadian Symposium of Remote Sensing: Bridging Excellence, Lethbridge, Alberta, June 22-25 2009.
- Linke J. 2009. Oral Presentation: Tracking Annual Landscape Change in the Rocky Mountain Foothills of Alberta: Development and Applications of the Disturbance-Inventory Monitoring Framework. Department of Geography 46th Annual Conference. Calgary, Alberta. March 20, 2009.
- Linke, J., McDermid, G., McLane A.J., Laskin, D.N. 2008. Oral Presentation: Methods for tracking landscape change in an object-based environment: towards a framework for reliable monitoring. GEOBIA 2008 Conference - Pixels, Objects, Intelligence. Calgary, Alberta. August 5-8 2008.
- Linke, J., McDermid, G., Pape, A., Hall-Beyer, M. 2008. Oral Presentation: The influence of spatial delineation errors on multi-temporal landscape pattern analysis. ASPRS Annual Conference, Portland, Oregon. April 28 - May 2, 2008.
- Linke, J., Pape, A., Cranston, J., McDermid, G., Hall-Beyer, M., Franklin, S.E., Stenhouse, G.B. 2007. Oral Presentation: Changes in female grizzly bear (*Ursus arctos*) homerange composition and configuration in the multi-use Albertan Rocky Mountain Foothills, Canada. 7th IALE World Congress, Wageningen, Netherlands. July 8 - 12, 2007.
- Linke, J. S.E. Franklin, G.B. Stenhouse, and F. Huettmann. 2002. Poster Presentation: Grizzly bear population landscape use and structure in Alberta. 14th International Conference on Bear research and Management, Steinkjer, Norway. July 28 - August 2, 2002.
- Linke, J. and S.E. Franklin. 2002. Oral presentation: Effects of Seismic Cutlines on Landscape Metrics of Grizzly Bear Habitat in the Alberta Foothills, Canada. 17th Annual Symposium of the International Association for Landscape Ecology, Lincoln, Nebraska. April 23 -27, 2002.
- Linke, J. and S. E. Franklin. 2002. Oral Presentation: 'Grizzly Bear Habitat Fragmentation by Seismic Cutlines mapped from Indian Remote Sensing Imagery in the Foothills of Alberta'. Western Division of Canadian Association of Geographers, Vancouver B.C. March 15-17. 2002.

3.5 Non-refereed Contributions

- Linke J. 2011. Development and Application of a Framework for Flexible and Reliable Landscape Monitoring: Changes in the Alberta Foothills and the Impact on Grizzly Bear Habitat. M. Sc. Thesis, University of Calgary: Calgary, AB, Canada. 163pp.
- Linke J. 2003. Using Landsat TM and IRS imagery to Detect Seismic Cutlines: Assessing their Effects on Landscape Structure and on Grizzly Bear (*Ursus arctos*) Landscape Use in Alberta. M. Sc. Thesis, University of Calgary: Calgary, AB, Canada. 149pp.
- Linke J. and S.E. Franklin. 2003. Grizzly Bear Foothills Habitat Fragmentation by Seismic Cutlines: Preliminary Report about Parsimony of Landscape Metrics and Cutline Effects on Habitat Structure and Foothills Grizzly Bear Landscape Use. Pages 68-87, *in* G. B.

Stenhouse, R.H. Munro, and K. Graham (eds). Foothills Model Forest Grizzly Bear Research Program: 2002 Annual Report. Hinton, Alberta.

Wiese, F.K., W.A. Montevecchi, G. Davoren, F. Huettmann, A.W. Diamond and J. Linke. 2000. Abstract: The necessity to monitor the impacts of offshore oil platforms on seabirds. Canadian Technical Report of Fisheries and Aquatic Sciences 23331, p. 13.

Montevecchi, W.A., Wiese, F.K. G. Davoren, F. Huettmann, A.W. Diamond and J. Linke. 1999. Seabird attraction to offshore platforms and seabird monitoring from offshore support vessels and other ships. Report prepared for the Canadian Association of Petroleum Producers.

3.8 Invited Lectures

Invited Lecture, The disturbance-inventory framework for landscape monitoring: foundations and application to grizzly bear habitat, Life Sciences Seminar, Trent University, Peterborough, Ontario, February 10, 2012

Invited Lecture, Conceptual Foundations and Application of the Disturbance-Inventory Framework for Flexible and Reliable Landscape Monitoring: Changes in the Alberta Foothills and Impact on Grizzly Bear Habitat, Departmental Seminar for Ecology and Evolutionary Biology, University of Toronto, Toronto, Ontario, February 9, 2012

Invited Lecture, Using Landsat TM and IRS imagery to Detect Seismic Cutlines: Assessing their Effects on Landscape Structure and on Grizzly Bear (*Ursus arctos*) Landscape Use in Alberta, University of Alaska, Biology Department, Fairbanks, AK, October 31, 2003

Invited Lecture, Using Landsat TM and IRS imagery to Detect Seismic Cutlines: Assessing their Effects on Landscape Structure and on Grizzly Bear (*Ursus arctos*) Landscape Use in Alberta, University of New Brunswick, Forestry Department, Fredericton, NB, February 2005

Guest Lecture, Using Landsat TM and IRS imagery to Detect Seismic Cutlines: Assessing their Effects on Landscape Structure and on Grizzly Bear (*Ursus arctos*) Landscape Use in Alberta: A case study applying multivariate statistics, University of Calgary, Geography Course 439, March 2006.

4.0 RESEARCH EXPERIENCE AND CONTRACTS

4.1 Research Contracts

Alberta Biodiversity Monitoring Institute, Edmonton, Alberta/University of Calgary, Department of Geography (Dr. Jim Schieck, Dr. G. McDermid), human footprint statistical analysis, design, analysis and dissemination of results of a photoplot displacement sensitivity study with implication on landscape pattern analysis. October 2008 – February 2009

University of Saskatoon, Department of Geography (Dr. S.E. Franklin), scientific literature review on landscape structure and natural disturbances, written compilation and coordination of a book chapter; Jan. – April 2005

Simon Fraser University, Department of Biology (Dr. D. Lank), statistical analysis of marbled murrelet (*Brachyramphus Marmoratus*) nesting habitat structure; Jan. – Feb. 2003

Canadian Forest Service, Victoria (Dr. M. Wulder), scientific literature compilation and review on Landsat satellite data accuracy assessment methods; Nov. - Dec. 2002

University of New Brunswick, Faculty of Forestry (Dr. A. Diamond), scientific literature compilation, website design, production of charts, sampling and seabird population estimates, report writing and presentation; May – June 1999

Canadian Forest Service, Fredericton (Dr. M. Lavigne), ecophysiological research assistantship with project establishment, field experiments, field work, wet-laboratory work, soil respiration and photosynthesis measurements; May – Aug. 1996, 1997, 1998

5.0 ACADEMIC AND PROFESSIONAL ACTIVITIES

5.1 Membership in Professional Organizations

American Society for Photogrammetry and Remote Sensing 2008 - present

Canadian Association of Geographers 2009 – present

Ecological Society of America 2008 - present

International Association of Landscape Ecology 2005 - present

5.2 Academic Service, Reviewer for Scientific Journals

Canadian Journal of Remote Sensing 2010 - present

Ecological Indicators 2011- present

Environmental Monitoring and Assessment 2011 – present

International Journal of Applied Earth Observation and Geoinformation 2011 – present

IEEE – Selected Topics in Applied Earth Observations and Remote Sensing 2011 - present

Journal of Environmental Management 2010 - present

Landscape Ecology 2009 - present

Photogrammetric Engineering and Remote Sensing 2011 - present

Remote Sensing of Environment 2009 – present

5.3 Academic Service, University of Calgary

Graduate Representative to the Faculty 2005-2008

Annual Departmental BBQ & Christmas Social Committee 2005-2008

Moderator and Initiator of the Modelling and Statistics Learning and Discussion Group (MOSTA: www.ucalgary.ca/~jlinke/mosta) at the Department of Geography 2006 – 2008

Co-supervision of Masters in GIS Student Aleksandra Sobol 2008 - 2009.

Mentoring of Masters in GIS Student Andrea Ram 2009 - 2010.