

Curriculum Vitae

Fangliang He

Professor

Canada Research Chair in Biodiversity and Landscape Modeling

Department of Renewable Resources

University of Alberta

Edmonton, AB Canada T6G 2H1

Email: fhe@ualberta.ca

Phone: (780)-492-7575; Fax: (780)-492-4323

Website: www.rr.ualberta.ca/people/fhe/index.html

Education

- 1991 – 1994: Ph.D. (Ecology)
Dept. of Biological Sciences
Université de Montréal
- 1995 – 2000: M.Sc. (Statistics)
Dept. of Mathematics and Statistics
University of Victoria
- 1985 – 1988: M.Sc. (Population ecology)
Institute of Applied Ecology
Chinese Academy of Sciences
- 1979 – 1983: B.Sc. (Forestry)
Dept. of Forestry
Nanjing Forestry University, China

Academic Interests

Community ecology, Biodiversity and conservation, Landscape ecology, Spatial statistics, Biometrics, Forest Ecology, Sustainable Forest Management, Impact of climate change on species distribution

Professional Experience

- 2007 July – Professor
Canada Research Chair in Biodiversity and Landscape Modeling
Department of Renewable Resources
University of Alberta
- 2003 – 2007: Associate Professor

Canada Research Chair in Biodiversity and Landscape Modeling
Department of Renewable Resources
University of Alberta

- 1996 – 2003: Research Scientist
Canadian Forest Service, Pacific Forestry Centre
Victoria, BC, Canada
- 1994 – 1996: NSERC Postdoctoral Research Fellow (government lab)
Wetland ecology, vegetation analysis, insect-plant interaction
Canadian Forest Service, Great Lakes Forestry Centre
Sault Ste. Marie, Ontario, Canada
- 1991 – 1993: Research Assistant
Statistical ecology
Lab of Prof. Pierre Legendre
Dept. of Biological Sciences
Université de Montréal, Québec, Canada

Awards and Honours

- Canada Research Chair, 2003-2008, renewable.
- Adjunct Professor (Dept. of Statistics and Actuarial Science, Simon Fraser University, Burnaby, BC, Canada. Since 2000).
- NSERC Post-Doctoral Fellowship, 1994-1996.
- Graduate Student Fellowship, Ministère de l'Éducation du Québec, 1991-1993.
- Outstanding Graduate Student Award, Dept. of Biological Sciences, Université de Montréal, 1992.

Teaching Experience

- Fall 2006: RENR680: Advanced Biometrics. Dept. of Renewable Resources, University of Alberta
- Fall 2005: RENR501: Advanced Biometrics. Dept. of Renewable Resources, University of Alberta
- Winter 2005: RENR401: Spatial Data Analysis in Ecology. Dept. of Renewable Resources, University of Alberta
- Fall 2004: RENR401: Biodiversity Analysis. Dept. of Renewable Resources, University of Alberta
- Summer 2002: STAT890/490: Spatial Statistics. Dept. of Statistics of Simon Fraser University. Jointly lectured by Prof. Charmaine Dean and me (half-half split). I covered point pattern analyses and geostatistics, CD covered lattice data modeling.

- Summer 2001: Short course (10 hrs): Linear/Generalized Linear Regression Models, to 30 foresters and ecologists from 12 countries at the Center for Tropical Forest Science of the Smithsonian Workshop on the Analysis of Forest Plot Data, India Institute of Science, Bangalore, India.
- Summer 1996: Teaching assistant for Probability and Statistics, to over 100 engineering students, Dept of Math and Stat, the University of Victoria.

Associate Editor

As associate editor, on average, I handle one manuscript per week for the various journals.

- Ecology (2002-2008, two terms)
- Ecological Monographs (2002-2008, two terms)
- Ecology Letters (2004-)
- Journal of Applied Ecology (2006-2008)
- Journal of Integrative Plant Biology (2005-2010)
- Plant Ecology (2006-2008)
- Chinese Journal of Applied Ecology (2005-2007)
- Acta Phytoecologica Sinica (2002-2005)

Manuscripts and Books Refereed

- Manuscript review for:
Acta Biotheoretica, Acta Oecologia, Acta Phytoecologica Sinica, American Journal of Botany, American Naturalist, Austral Ecology, Avian Conservation and Ecology, Biotropica, Bulletin of Entomological Research, Canadian Journal of Forest Research, Conservation Biology, Ecography, Ecology, Ecological Monographs, Ecology Letters, Ecological Modeling, Ecoscience, Forest Science, Functional Ecology, Environmental Management, Global Ecology and Biogeography, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Biogeography, Journal of Ecology, Journal of Tropical Ecology, Landscape Ecology, Natural Resource Modelling, Northwest Science, Oikos, Physical Review E, Physical Review Letters, Plant Ecology, Proceedings of the National Academy of Sciences, Science, Theoretical Population Biology
- Review one book for Oxford University Press (2002)
- Review book chapters for Springer (2003), Cambridge University Press (2005), Nova Science Publisher (2005).

Research Proposal Review

- NSERC (Canada, 6 proposals since 2004)
- NERC (UK, 2002)
- NNSCF (China, 19 key project proposals, since 2006)
- NSF (US, 5 in total since 2004)
- Academia Sinica (Taipei, China, 1 proposal in 2006)
- US-Israel Binational Science Foundation (1 proposal, 2007)
- Panelist on the Rural Economy and Land Use Programme for the UK Economic and Social Research Council, in Swindon, England, 13th – 18th, November, 2004. There were over 150 proposals.
- NWO (the Netherlands, two proposals since 2004)
- BC Forest Science Program (five proposals in 2005)
- Panelist for FII (BC) (2001)

Professional Service

1. 2007- : Board of Advisor (university level), Centre for Mathematical Biology, Univ of Alberta
2. Winter term, 2007: Coordinator of the biweekly meeting of the Statistical Ecology Discussion Group (campus wide). Each meeting lasts for 1.5 hrs reading and discussing classical papers or latest topical publications. The theme of this term's discussion is: "Liking genetic diversity and species diversity". Attendance: 20-40 people.
3. 2006-2008: Member of Departmental Graduate Committee. Dept of Renewable Resources, UofA.
4. 2005-2007: Committee member of the International Partnership Fund, UofA.
5. BIRS (Banff Internatioanl Research Station) Workshop, "Forests, Fires and Stochastic Modeling". May 6-11, 2006. Organizers: W. Braun (Western Ontario), C. Dean (SFU), **F. He** (Alberta), D. Martell (Toronto) and H. Preisler (USDA Forest Service).
6. 2004-2005: Environment and Nature Conservation Science Undergraduate Curriculum Committee, Faculty of Agriculture, Forestry, and Home Economics, UofA.
7. 1997 – 2003: Seminar Committee, Pacific Forestry Centre, Canadian Forest Service, Victoria, BC.
8. Organized and chaired the Spatial Statistics Session at the 2001 Annual Meeting of the Statistical Society of Canada (June 10-14, 2001, Burnaby, BC).

Research Outputs

(1) Article in referred journals:

1. **He, F.** and Gaston, K. From occurrence to abundance: an estimable problem. American Naturalist (in press).
2. Pueyo, S., **He, F.** and Zillio, T. The maximum entropy formalism and the idiosyncratic theory of biodiversity. Ecology Letters (Ideas/Perspective paper, subject to revision).
3. McGill, B.J., Etienne, R.S., Gray, J.S., Alonso, D., Anderson, M.J., Benecha, H.K., Dornelas, M., Enquist, B.J., Green, J., **He, F.**, Hurlbert, A., Magurran, A.E., Marquet, P.A., Maurer, B.A., Ostling, A., Soykan, C.U., Ugland, K., White, E. Species abundance distributions: moving beyond single prediction theories to integration within an ecological framework. Ecology Letters (subject to revision).
4. Hu, X.-S., **He, F.** and Hubbell, S.P. Species diversity in local neutral communities. American Naturalist (in press).
5. **He, F.** and Tang, D.L. Estimating the niche preemption parameter of the geometric series. Acta Oecologica (subjecto revision)
6. Wang, S.F., Tang, D.L., **He, F.** and Fukuyo, Y. Occurrences of harmful algal blooms (HABs) associated with ocean environments in the South China Sea. Hydrobiologia (in press).
7. Nelson, W., Potapov, A., Lewis, M., Hundsdoerfer, A. and **He, F.** The balance of complexity in mechanistic modeling: Risk analysis in the mountain pine beetle. Journal of Applied Ecology (in press).
8. Getzin, S., Dean, C., **He, F.**, Trofymow, T., Wiegand, T. and Wiegand, T. 2006. Spatial patterns and competition of tree species in a Douglas-fir chronosequence on Vancouver Island. Ecography 29:671-682.
9. Magnussen, S., Péliissier, R., **He, F.** and Ramesh, B.R. 2006. An assessment of sample-based estimators of tree species richness in two wet tropical forest compartments in Panama and India. International Forestry Review 8:417-431.
10. Hu, X.-S., **He, F.** and Hubbell, S.P. 2006. Neutral theory in population genetics and macroecology. Oikos 113:548-556.
11. Hu, X.-S. and **He, F.** 2006. Seed and pollen flow in expanding a species' range. Journal of Theoretical Biology 240:662–672.
12. Volkov, I., Banavar, J.R., **He, F.**, Hubbell, S.P. and Maritan, A. 2006. Comparing models of species abundance: a reply. Nature 441:E1-E2.
13. Gaston, K.J., Borges, P.A.V., **He, F.** and Gaspar, C. 2006. Abundance, spatial variance, & occupancy: species distribution in the Azores. Journal of Animal Ecology 75:646–656.

14. Wills, C., Harms, K.E., Condit, R., King, D., Thompson, J., **He, F.**, Muller-Landau, H.C., Ashton, P., Losos, E., Comita, L., Hubbell, S., LaFrankie, J., Bunyavejchewin, S., Dattaraja, H.S., Davies, S., Esufali, S., Foster, R., Gunatilleke, N., Gunatilleke, S., Hall, P., Itoh, A., John, R., Kiratiprayoon, S., Loo de Lao, S., Massa, M., Nath, C., Noor, M.N.S., Kassim, A.R., Sukumar, R., Suresh, H.S., Sun, I.-F., Tan, S., Yamakura, T. and Zimmerman, J. 2006. Non-random processes contribute to the maintenance of diversity in tropical forests. Science 311:527-531.
15. Muller-Landau, H.C., Condit, R.S., Harms, K.E., Marks, C.O., Thomas, S.C., Bunyavejchewin, S., Chuyong, G., Co, L., Davies, S., Foster, R., Gunatilleke, S., Gunatilleke, N., Hart, T., Hubbell, S.P., Itoh, A., Kassim, A.R., Kenfack, D., LaFrankie, J.V., Lagunzad, D., Lee, H.S., Losos, E., Makana, J.-R., Ohkubo, T., Samper, C., Sukumar, R., Sun, I.-F., Nur Supardi M.N., Tan, S., Thomas, D., Thompson, J., Valencia, R., Vallejo, M.I., Muñoz, G.V., Yamakura, T., Zimmerman, J.K., Dattaraja, H.S., Esufali, S., Hall, P., **He, F.**, Hernandez, C., Kiratiprayoon, S., Suresh, H.S., Wills, C. & Ashton, P. 2006. Comparing tropical forest tree size distributions with the predictions of metabolic ecology and equilibrium models. Ecology Letters 9:589–602.
16. **He, F.** and Hubbell, S.P. 2005. Percolation theory for the distribution and abundance of species: a reply. Physical Review Letters 95, article # 189804.
17. Volkov, I., Banavar, J.R., **He, F.**, Hubbell, S.P. and Maritan, A. 2005. Density dependence explains tree species abundance and diversity in tropical forests. Nature 438:658-661.
18. **He, F.** and Hu, X.-S. 2005. Hubbell's fundamental biodiversity parameter and the Simpson diversity index. Ecology Letters 8:386-390.
19. **He, F.**, Gaston, K. J., Connor, E. F. and Srivastava, D. 2005. Local-regional species diversity relationship: immigration, extinction, and scale. Ecology 86:360-365.
20. Hu, X.-S. and **He, F.** 2005. Background selection and population differentiation. Journal of Theoretical Biology 235:207-219.
21. **He, F.** 2005. Deriving a neutral model of species abundance from fundamental mechanisms of population dynamics. Functional Ecology 19:187-193.
22. Wu, J., Huang, J.-H., Han, X.-G., Gao, X.-M., **He, F.**, Jiang, M.-X., Jiang, Z.-G., Primack, R. B. and Shen, Z.-H. 2004. Three Georges Dam: An ecological perspective. Frontiers in Ecology and the Environment 2:241-248.
23. **He, F.** and Hubbell, S.P. 2003. Percolation theory for the distribution and abundance of species. Physical Review Letters 91, article # 198103.
24. **He, F.** and Gaston, K.J. 2003. Occupancy, spatial variance, and the abundance of species. American Naturalist 162:366-375.
25. Trofymow, J.A., Addison, J., Blackwell, B.A., **He, F.**, Preston, C.A. and Marshall, V.G. 2003. Attributes and indicators of old-growth and successional Douglas-fir forests on Vancouver Island. Environmental Reviews 11:S187-204.

26. **He, F.**, Zhou, J. and Zhu, H.T. 2003. Autologistic regression model for the distribution of vegetation. Journal of Agricultural, Biological and Environmental Statistics 8:205-222.
27. **He, F.**, LaFrankie, J.V. and Song, B. 2002. Scale dependence of tree abundance and richness in a tropical rain forest, Malaysia. Landscape Ecology 17:559-568.
28. Gaston, K.J. and **He, F.** 2002. The distribution of species range size: a stochastic process. Proceedings of the Royal Society of London, B. 269:1079-1086.
29. **He, F.** and Legendre, P. 2002. Species diversity patterns derived from species-area models. Ecology 83:1185-1198 (Concepts/synthesis paper).
30. **He, F.**, Gaston, K.J. and Wu, J. 2002. On species occupancy-abundance models. Écoscience 9:119-126.
31. Holt, A.R., Gaston, K.J. and **He, F.** 2002. Occupancy-abundance relationships and spatial distribution: a review. Basic & Applied Ecology 3:1-13.
32. **He, F.** and Gaston, K.J. 2000. Estimating species abundance from occurrence. American Naturalist 156:553-559.
33. **He, F.** and Duncan, R.P. 2000. Density-dependent effects on tree survival in an old-growth Douglas-fir forest. Journal of Ecology 88:676-688.
34. **He, F.** and Alfaro, R.I. 2000. White pine weevil attack on white spruce: a survival time analysis. Ecological Applications 10:35-42.
35. **He, F.** and Gaston, K.J. 2000. Occupancy-abundance relationships and sampling scale. Ecography 23:503-511.
36. **He, F.** and Barclay, H. 2000. Long-term response of understory plant species to thinning and fertilization in a Douglas-fir plantation on southern Vancouver Island, British Columbia. Canadian Journal of Forest Research 30:566-572.
37. Tomlin, E.S., Alfaro, R.I., Borden, J.H. and **He, F.** 1998. Histological response of resistant and susceptible white spruce to simulated white pine weevil damage. Tree Physiology 18:21-28.
38. **He, F.**, Legendre, P. and LaFrankie, J.V. 1997. Distribution patterns of tree species in a Malaysian tropical rain forest. Journal of Vegetation Science 8:105-114.
39. Alfaro, R.I., **He, F.**, Tomlin, E. and Kiss, G. 1997. White spruce resistance to white pine weevil related to bark resin canal density. Canadian Journal of Botany 75:568-573.
40. **He, F.** and Alfaro, R.I. 1997. White pine weevil (Coleoptera: Curculionidae) attack on white spruce: spatial and temporal patterns. Environmental Entomology 26:888-895.
41. **He, F.** and Legendre, P. 1996. On species-area relations. American Naturalist 148:719-737.
42. **He, F.**, Legendre, P. and LaFrankie, J.V. 1996. Spatial patterning of diversity in a tropical rain forest in Malaysia. Journal of Biogeography 23:57-74.

43. Alfaro, R.I., **He, F.**, Kiss, G., King, J. and Yanchuk, A. 1996. Resistance of white spruce to white pine weevil: Development of a resistance index. Forest Ecology and Management 81:51-62.
44. Jeglum, J. and **He, F.** 1995. Pattern and vegetation-environment relationships in a boreal forested wetland in northeastern Ontario. Canadian Journal of Botany 73:629-637.
45. **He, F.**, Legendre, P., Belleheumer, C. and LaFrankie, J.V. 1994. Spatial scale and diversity patterns: a study of a tropical rain forest of Malaysia. Environmental and Ecological Statistics 1:265-286.

(2) Book chapters:

46. **He, F.** and Condit, R. 2007. The distribution of species: occupancy, scale and rarity. Pages 32-50 in Scaling Biodiversity, eds. D. Storch, P.L. Marquet and J.H. Brown. Cambridge University Press.
47. Borda de Agua, L., Hubbell, S.P. and **He, F.** 2007. Scaling biodiversity under neutrality. Pages 347-375 in Scaling Biodiversity, eds. D. Storch, P.L. Marquet and J.H. Brown. Cambridge University Press.
48. **He, F.** and Reed, W. 2006. Downscaling abundance from the distribution of species: occupancy theory and applications. Pages 89-108 in Scaling and Uncertainty in Ecology: Methods and Applications, eds. J. Wu, B. Jones, H. Li and O. Loucks. Springer, Dordrecht, The Netherlands.
49. **He, F.** 2002. Species abundance-distribution relationships. Pages 16-25 in Lectures in Modern Ecology (II): From Basic Science to Environmental Issues, eds. J. Wu & X.G. Han. Science and Technology Press, Beijing.

(3) Invited seminars/lectures:

1. Species-abundance distribution: neutral regularity, niche determinism, or idiosyncratic stochasticity? Invited seminar at the Program in Interdisciplinary Biological & Biomedical Sciences. University of New Mexico. April 18, 2007. (http://pibbs.unm.edu/courses_spring2007.html)
2. Species distribution and abundance. Invited departmental seminar, Dept. of Biological Sciences, University of Calgary. November 1, 2006.
3. Invited NCEAS working group: Tools and fresh approaches for species abundance distributions. One week working meeting. I presented a talk, Sufficient but unnecessary species-abundance theories, to the group of 15 invited participants. UC-Santa Barbara, October 23-27, 2006.
4. Invited to give one week short course on biodiversity (title: Biodiversity analysis) at Tunghai University, Taiwan, Republic of China. December 22 – 30, 2005. (<http://www2.thu.edu.tw/~cteb/>)

5. Population dynamics, niche theory, and neutral macroecology. Invited seminar. Research Center for Biodiversity, Academia Sinica, Taipei, Taiwan, Republic of China. December 30, 2005.
6. The correlation between the distribution and abundance of species. Invited seminar. National Taiwan University, Taipei, Taiwan, Republic of China. December 28, 2005.
7. Invited to the Biodiversity Science and Education Initiative (BSEI; <http://www.discoverlife.org/pa/ev/me/2005bsei/index.html>) – Ten Years Plan sponsored by the Smithsonian Institution. There were a series of meetings taking place in various locations to identify key gaps in the theoretical and empirical understanding of biodiversity, both pattern and process. The first two meetings took place in Panama (October 20-23, 2005) and Georgia (January 12-14, 2006), respectively.
8. Macroecology of Biodiversity: Patterns, Theories, Data and Conservation. Invited seminar, jointly invited by the Zhejiang University and Botanical Society of Zhejiang. June 7, 2005. (<http://www.cls.zju.edu.cn/sub/bsz.org/>)
9. Population dynamics, niche theory, and neutral macroecology. Invited speaker at the Third International Symposium on Modern Ecology. Beijing, China. June 1-6, 2005. (<http://www.moderneco.net/>)
10. Spatial Ecology. Invited speaker at the Workshop on Forest Fires and Point Processes sponsored by the Fields Institute for Research in Mathematical Sciences, University of Toronto. May 25, 2005. (http://www.fields.utoronto.ca/audio/04-05/forest_fires/he/)
11. The distribution of species: occupancy, scale and rarity. Invited workshop on Scaling biodiversity, organized and sponsored by the Sante Fe Institute and the Center for Theoretical Study, Charles University, Prague, October 19-23, 2004.
12. The application of geostatistics in soil data sampling and analysis. Invited speaker to a workshop on soil sampling protocol and analysis for the tropical forest mapping plots, June 4-9, 2004, Smithsonian Tropical Research Institute, Panama City.
13. Neutral theory of biodiversity: linking macroecological patterns of species abundance to local population processes. Invited departmental seminar at UBC – the Centre of Biodiversity /Zoology, Feb. 25, 2004.
14. Occupancy, spatial variance, and the abundance of species. Invited seminar to the Centre for Mathematical Biology, University of Alberta, Nov. 17, 2003.
15. Percolation theory for the distribution and abundance of species. Invited speaker at the 18th Annual Symposium of the International Association for Landscape Ecology, Banff Centre, Alberta, April 2-6, 2003.
16. Downscaling abundance from the distribution of species: occupancy theory and applications. Invited workshop on ecological scaling sponsored by the EPA at Arizona State University, Tempe, October 17-19, 2002.

17. Statistical modelling of species occurrence. Invited speaker to an NSF funded workshop in Panama on Species diversity analysis and species distribution in tropical rainforests. Smithsonian Tropical Research Institution, Gamboa, Panama, July 7-29, 2002.
18. The distribution and abundance of species. Invited seminar in the Dept. of Mathematics & Statistics, Univ. of Victoria, April 2, 2002.
19. Linear/generalized linear regression models, lecture to 30 foresters and ecologists from 12 countries. Center for Tropical Forest Science (CTFS) Workshop on the Analysis of Forest Plot Data, India Institute of Science, Bangalore, India. July 19-August 12, 2001.
20. Correlation between species distribution and abundance. Invited speaker at the 2000 Symposium of the Centre for Tropical Forest Science of the Smithsonian Institution, Singapore, May 28-June 4, 2000.
21. Species-area, species-dominance and species-aggregation relationships. Invited seminar in the Dept. of Life Sciences, Arizona State University West, Phoenix, March 10, 2000.

(4) Selected conference/workshop presentations:

22. Tree size distribution across forest communities. Oral presentation at the BIRS “Forests, Fires and Stochastic Modeling” Workshop. Banff, Alberta. May 6-11, 2006. Organizers: W. Braun (Western Ontario), C. Dean (SFU), F. He (Alberta), D. Martell (Toronto) and H. Preisler (USDA Forest Service).
23. Species distribution: edge length, the number of patches, and occupancy. Oral presentation at the 90th ESA annual meeting, Montreal, Quebec, Canada. August 7-12, 2005.
24. Local-regional species diversity relationships: immigration, extinction, and scale. Oral presentation at the 88th ESA annual meeting, Savannah, Georgia, August 3 - 8, 2003.

(5) Contract reports:

25. **F. He**. 2006. Modeling infestation and mortality rates for lodgepole pine trees attacked by the mountain pine beetle. Final Project Report of MPBI Project # 1.04B. Submitted to the Canadian Forest Service, Victoria, BC.

Contributions to the Training of Highly Qualified Personnel

(1) Postdoctoral research fellows supervised

Surname	First name	University	Years supervised	Title of research project	Current position
Zhu	Hongtu	Canadian Forest Service and U of Victoria	2000 - 2001	Spatial statistics and autologistic models	Associate Professor Dept of Biostat U of North Carolina, Chapel Hill
Borda-de-Agua	Luis	Canadian Forest Service and U of Alberta	2002-2003	Multifractal properties of species distribution	Postdoctoral fellow Dept of Plant Biology U of Georgia
Gamarra	Javier	U of Alberta	2005 - 2006	Modeling the spatial distribution of mountain pine beetle outbreaks in BC	Postdoctoral fellow U of Wales
Mills	Jason	U of Alberta	2006	Spatio-temporal dynamics of mountain pine beetle outbreaks in BC	Postdoctoral fellow U of Wisconsin, Milwaukee.
Pyueo	Salvador	U of Alberta	2006-present	Biodiversity patterns and species assemblage rules (Max Entropy)	U of Alberta
Zillio	Tommaso	U of Alberta	Start in Jan of 2007	Theoretical physics, spatially explicit neutral models of biodiversity	U of Alberta

(2) Graduate students supervised

Surname	First name	University	Years supervised	Degree	Title of research project
Hunsdoerfer	Anina	U of Alberta	2004 - 2006	M.Sc. (completed July 2006)	Mountain pine beetle infestation risk: Interactions of population phase, host vigour and spatial aggregation Current employer: Sustainable Resources Development, Alberta Government
Babak	Petro	U of Alberta	2004 - 2006	Ph.D. (completed Nov 2006)	Continuous probabilistic analysis of neutral macroecological models for species abundance dynamics
Chen	Ting	U of Alberta	2005 - present	M.Sc. (in progress)	Spatial analysis of North Saskatchewan River valley corridor in Edmonton and its significance to biological conservation
Bodeux	Brett	U of Alberta	Sept. 2006 - present	M.Sc. (in progress)	Beta diversity of insects in boreal forest of Alberta (EMEND study)
Gray	Laura	U of Alberta	Sept. 2006 - present	M.Sc. (in progress)	Tree competition and stand dynamics of boreal forest of Alberta (EMEND study)

Graduate students co-supervised

Mandryk	Adele	U of Alberta	2002-present	PhD (in progress) Adele was Ross Wein's student. I became her primary supervisor after Wein retired in the summer.	The Urban Forest in Conservation Biology
---------	-------	--------------	--------------	-----------------------------------------------------------------------------------------------------------------------	------------------------------------------

(3) Research personel and undergraduate supervised

Surname	First Name	University	Years supervised	Position	Research Project
Fan	Shihe	U of Alberta	2003 – June 2006	Research associate/technician	Lab manager Current position: Biostatistician of the Capital Health, Edmonton, Alberta.
Hu	Xinsheng	U of Alberta	2003 - present	Research associate	Population genetics and biodiversity
Fitzpatrick	Jeremy	U of Alberta	Summer 2006	Undergraduate student internship	Field assistant worked at the EMEND site
Oakley	Robert	U of Alberta	Summer 2006	Undergraduate student internship	Field assistant worked at the EMEND site

(4) Visiting scientists from the Chinese Biodiversity Monitoring Network (<http://www.cfbiodiv.org/>). The network consists of five large-scale stem mapping plots from temperate to tropical forests in China. Since 2004 I have supported 11 scientists for 4-5 months visit.

Surname	First Name	Home Institution	Years supervised	Activity
Ye	Ji	Shenyang Institute of Applied Ecology, Chinese Academy of Sciences	Dec. 2004 - May 2005	Analyzed tree distribution of the 25 ha Changbai plot
Mi	Xiangcheng	Beijing Institute of Botany, Chinese Academy of Sciences	Nov 2005 - March 2006	Analyzed tree distribution of the 24 ha Gutian plot
Ren	Haibao	Beijing Institute of Botany, Chinese Academy of Sciences	Nov 2005 - May 2006	Species-habitat association in the Gutian plot
Ding	Ping	Dept of Biology, Zhejiang University	Feb - May 2006	Bird diversity in the Gutian Reserve
Yu	Mingjiang	Dept of Biology, Zhejiang University	Feb - May 2006	Life-history traits in Gutian plot
Chen	Xiaoyong	Dept of Environmental Science & Technology, East China Normal University, Shanghai	Oct 2005 - Feb 2006	Tiantong 20 ha plot, prepared for establishment
Wang	Zhigao	South China Botanical Garden, Chinese Academy of Sciences	March - June 2006	Species-habitat association in the 20 ha Dinghu plot
Li	Lin	South China Botanical Garden, Chinese Academy of Sciences	Sept - Jan 2006	Tree distribution in the Dinghu plot
Lian	Juyun	South China Botanical Garden, Chinese Academy of Sciences	Feb.- June 2007	Tree size (DBH) distribution in the Dinghu plot
Wang	Xugao	Shenyang Institute of Applied Ecology, Chinese Academy of Sciences	May – Aug. 2007	Tree diversity patterns in Changbai plot
Zhang	Jian	Shenyang Institute of Applied Ecology, Chinese Academy of Sciences	May – Aug. 2007	Density-dependent effect in Changbai plot

(5) Graduate supervisory/examination committees served (Asterisk indicates supervisory committee)

Surname	First Name	Department	Years begun	Degree	Supervisor
Qian	Hong	Forest Sc, UBC	2000	PhD (completed)	Karl Klinka
Canners*	Richard	Renewable Resource	2003	PhD (in progress)	Ellen Macdonald
Chavez*	Virginia	Renewable Resource	2003	PhD (in progress)	Ellen Macdonald
Charest	Kerri	Biol. Sciences	2003	MSc (completed)	Stan Boutin
Hallstrom	Wayne	Biol. Sciences	2004	MSc (completed)	Jens Roland
Cameron*	Erin	Biol. Sciences	2004	MSc (in progress)	Erin Bayne
Chhin	Sophin	Renewable Resources	2004	PhD (in progress)	Vic Lieffers
Jerde	Chris	Bio. Sciences	2004	PhD (in progress)	Mark Lewis
Russell*	Mike	Biol. Sciences	2004	MSc (in progress)	Susan Hannon
Laurent*	Kathy St.	Renewable Resources	2005	MSc (in progress)	Fiona Schiegelow
Krkosek	Martin	Biol. Sciences	2005	PhD (in progress)	Mark Lewis
Lee	Jungmin	Math & Stat	2006	PhD (completed)	Mark Lewis
Garret*	Chris	Biol Sciences	2006	MSc (in progress)	Evelyn Merrill
Huang	Yingduan	Earth Science	2006	PhD (in progress)	Arturo Sanchez

Research Grants Received since Joining UofA in 2003

Granting body	Title	Total funding (granting period)	Amount I received	PI/Co-PI
Canada Foundation for Innovation	Equipment for study of spatial ecology and biodiversity	\$72 (2003-2008)	\$72k	F. He
NSERC	Predicting macroecological patterns from population processes	\$100k (2004-2008)	\$100k	F. He
Alberta Ingenuity Fund	Modeling distribution and abundance of species in landscapes	\$225k (2005-2007)	\$225k	F. He
National Excellent Centre for Sustainable Forest Management	Developing biodiversity patterns for predicting the effect of management on the boreal mixedwood forests of Alberta	\$539.7k (2006-2009)	\$209.7	F. He/C. Dean, D. Langor, B. McGill, J. Spence, F. Sperling and T. Work
Manning Forestry Research Fund	Biodiversity patterns in the boreal mixedwood forests of Alberta	\$75k (2006-2009)	\$75	F. He
Canadian Forest Service	Modeling infestation and mortality rates for lodgepole pine trees attacked by the mountain pine beetle	\$240k (2003-2005)	\$240k	F. He
Canadian Forest Service	Landscape modeling of spatio-temporal patterns of mountain pine beetle infestation	\$395k (2004-2007)	\$200k	M. Lewis/F. He
Canadian Forest Service	MPB invasion from lodgepole to jack pine: a “minimal complexity” population/landscape simulation modeling approach to risk forecasting & risk reduction	\$185k (2006-2008)	\$80k	Barry Cooke/F. He
Forest Resource Improvement Assoc. of Alberta	Modeling the occurrence of forest fires in Alberta	\$300k (2005-2006):	\$20k	Frank Liu/F. He
GEOIDE	Forests, Fires and Stochastic Modeling	\$130 (2005-2006)	\$10	Charmaine Dean/F. He and 9 other researchers
FSIDA,UofA	Forest biodiversity and dynamics plot network of China	\$10k (2005)	\$10k	F. He
Marsden Grant, Royal Society of New Zealand	Why are common species more widely distributed than rare species?	\$140k NZ fund (2006-2007)	\$5k (support travel)	Hannah Buckley/R. Duncan and F. He