



Faculty Employment Application

Human Resources
888 N. Euclid Ave. #114 * P.O. Box 210158
Tucson, Arizona * 85721-0158

(520) 621-3662 Telephone
(520) 621-8299 TDD (8-5 M-F)

Job Number: 44727	Job Title: Assistant or Associate Professor	Date: Mar 8 2010 3:11PM
-----------------------------	---	-----------------------------------

Personal Information

Last Name: Bradford	First Name: John	Middle Name:	Email Address: jbbradford@fs.fed.us			
Address: 32353 Bear Creek Rd.	City: Grand Rapids	State: MN	Zip Code: 55744	International Postal Code:	Country: USA	
Home Phone: 218-327-5478	Cell / Other Phone:		Contact Number: 218-326-7105			

References

Name:	Institution/Organization	Address	Title:	Phone:	Email Address:
Michael Ryan	US Forest Service Rocky Mountain Research Station	Fort Collins, CO 80526	Research Ecologist	970-498- 1012	mgryan@fs.fed.us
William Lauenroth	Department of Botany - University of Wyoming	Laramie, WY 82071	Professor	307-766- 4353	wlauenro@uwyo.edu
N. Thompson Hobbs	Natural Resource Ecology Laboratory	Colorado State University Fort Collins, CO 80524	Professor and Senior Research Scientist	970-491- 5738	nthobbs@cnr.colostate.edu

Other Information

Are you legally authorized to work in the U.S.? Yes
What is your current employment status with the University of Arizona? Not a University of Arizona employee
If you are a current employee enter your Employee Identification Number (EID) in the space to the right. If you never worked for the University, worked as a student, or terminated your employment prior to July of 2001 enter N/A. Note: Please do not enter hyphens in the EID field. Your 9-digit EID number (Ex: 120001234) may be found by logging into the Employee Link website. Your EID number is located in the "Current Employment" tab. You may also find your EID number on your pay stub. Note: Your Employee ID number is NOT your Social Security Number. N/A

Supplemental Questions

Where did you first learn about this position? Other (Enter name below)

Enter the specific name of any referral source, or the code printed on the business card you received from The University of Arizona career fair booth:

Ecophysiology web page

Have you ever been convicted of or plea bargained to a misdemeanor offense?

No

If yes, you must provide criminal conviction information and dates: (*You are responsible for knowing if traffic violations or other citations received were classified as a misdemeanor*).

Have you ever been convicted of or plea bargained to a felony offense?

No

If yes, you must provide criminal conviction information and dates: (*You are responsible for knowing if traffic violations or other citations received were classified as a felony*).

By indicating 'Yes' below, I affirm that my responses above are true, complete and accurate. I understand that if I accept a job offer, I will be asked to give my written consent for the University of Arizona to conduct a check of my criminal conviction history, motor vehicle record, educational credentials and work history.

I further understand that a 'yes' response will not automatically disqualify me from consideration. However, falsifying, misrepresenting, or omitting criminal conviction information on any application document will likely result in a withdrawal of any job offer and termination of any subsequent employment with the University.

Yes, I affirm that my responses above are true, accurate and complete to the best of my knowledge.

Can you perform the essential functions (job duties) of this position with or without accommodation?

Yes

What is your current employment status with The University of Arizona?

Not a University of Arizona employee

If you have never worked for the University or terminated your employment prior to July 2001, please enter N/A in the space to the right. If you are a current, former, or retired UA employee and were issued an EmplID please enter your number in the space to the right. Your EmplID can be found by logging in to UAccess Employee and viewing your paycheck. Please do not enter hyphens in the EmplID field. Note: Your EmplID is not your Social Security Number.

N/A

Agreement

I certify the statements made by me in this application are true and complete to the best of my knowledge and belief and are made in good faith. I understand that any false statement made herein will void this application and any actions based upon it, and I agree to revise this application should any of the information change. I understand that this application and all attachments are the property of The University of Arizona. I authorize The University of Arizona or any of its agents to make reference checks relating to my employment and I also authorize all prior employers to provide full details concerning my past employment. I authorize the University of Arizona to request and obtain records to determine the accuracy of my responses. I understand that employment in certain positions may be conditional upon a background verification including but not limited to criminal records. I certify that I am or will be legally authorized to work in the United States at the time of hire.

BY SIGNING BELOW, I certify that I have read and agree with these statements.

John Bradford

Applicant's Name

Applicant's Signature

Date

[Close Window](#)

JOHN BRADFORD – RESEARCH & TEACHING

RESEARCH ACCOMPLISHMENTS AND INTERESTS

I study the interactions between terrestrial vegetation, human land use, and changing climatic conditions. My research focuses specifically on terrestrial ecosystem productivity, carbon cycling, and plant functional group dynamics and I seek to understand how these processes are impacted by changing climatic conditions and land use practices. Human society relies on services from terrestrial ecosystems directly, for agricultural products, and indirectly, for carbon storage, water cycling, recreational opportunities, etc. Modifications to the function or distribution of terrestrial ecosystems could impact the viability and sustainability of these services. As a consequence, understanding the consequences of climate change and land use is a central challenge for ecologists today.

My research interests involve the challenge of understanding ecological processes over large areas and long time periods. To confront this challenge, I integrate manipulative and observational data, often derived from tree increment cores, with ecological simulation modeling and diverse data sources including remotely sensed imagery and inventory data to provide insight into ecological processes at scales from small plots to larger landscapes and regions.

My research career began at Colorado State University with examinations of primary productivity, carbon cycling, and plant community dynamics. This work solidified my interest in terrestrial plant ecology and established my focus on understanding interactions between climate change and land use practices. In a regional analysis of the U.S. Great Plains, I quantified the important influence that cultivation, long term climatic conditions and short-term weather fluctuations exert over plant productivity and phenology. In a separate project, I used a model that couples soil water dynamics with plant resource acquisition strategies and found that seasonal patterns of precipitation can impact the susceptibility of ecosystems to invasive plants in the intermountain region of the U.S and ecologically similar ecosystems in Patagonia, Argentina.

Over the past few years with the US Forest Service, I have built a robust, externallyfunded,

research program examining patterns of plant community dynamics, productivity and carbon cycling at multiple spatial and temporal scales. In this work, I am maintaining my focus on climate change and land use practices as drivers of ecosystem processes. Specifically, I am moving my research forward on several fronts:

- Utilizing dendrochronological data to estimate stand-level annual growth patterns and relationships with weather variation to assess the consequences of increasing weather variability.

- Examining annual growth patterns (from increment cores) in long-term silvicultural experiments to identify forest management strategies that promote ecological resistance and resilience to changing, and increasingly variable, conditions

John Bradford – Research & Teaching Page 2 of 3

- Using measurements of plant community dynamics and tree-ring derived tree growth patterns at multiple scales to assess the relationship between ecological complexity (both structural and compositional) and stability of ecosystem function

- Using soil water models to assess how precipitation regimes impact soil water availability in the western U.S. and how future changes in precipitation may impact

plant communities and vegetation productivity

- Developing mathematical models to represent trajectories of species composition, carbon storage and plant productivity following disturbances
- Integrating annual stand-level growth patterns with ecological simulation models to assess the long-term consequences of changing climatic conditions and increasing weather variability for forest productivity and ecosystem carbon cycling.

As these research activities indicate, my research background and interests encompass all of the research foci identified for this position. I am working on basic research into the controls over plant community structure and function as well as applied investigations into the consequences of global change on plant communities. In the Tree Ring Research Laboratory, I hope to build a research program that brings together my background in plant community and ecosystem ecology to address quantitative questions at multiple spatial and temporal scales. I look forward to continuing my research assessing the impact of climate change and land use practices on terrestrial vegetation; I am especially interested in studying the importance of interannual weather variability and the impact of increased weather extremes. I hope to assess how land management alters ecosystem processes, specifically by characterizing the regionalscale

consequences of altered sagebrush restoration and forest harvesting strategies. I hope to examine how altered climatic conditions will impact plant competition and distribution, primary productivity, and carbon cycling.

I am enthusiastic about the prospect of joining the Tree Ring Research Laboratory and the University of Arizona for several reasons. First, my research includes numerous projects utilizing tree increment cores to assess annual patterns of stand-level growth and productivity in forested ecosystems of both the Lake States and the western U.S. Understanding the consequences of increasing weather variability for ecosystem structure and function is a driving theme in my research and I believe increment cores are an excellent means of assessing the consequences weather fluctuations. Second, much of my research focuses on examining ecosystems of the southern Rocky Mountain region, and I am excited about the possibility of expanding and augmenting this focus. I envision a diverse and stimulating research program aimed at understanding the implications of climate change for terrestrial vegetation and developing land management strategies that contribute to mitigation and adaptation. Third, my research examines ecological processes over large areas that include multiple vegetation types, and I see value in reaching across these ecological boundaries. The University of Arizona is an ideal setting for addressing multi-scale questions because topography and steep environmental gradients in the western U.S. create a fine grain mosaic of ecosystems that encompass grasslands, shrublands, forests, and alpine tundra within only a few miles. The impact of global change is not constrained by ecosystem boundaries. I hope to understand that impact by taking a systems-ecology approach that utilizes dendrochronological data to integrate across ecological boundaries and spatial scales.

TEACHING EXPERIENCE AND INTERESTS

I believe that teaching is likely to be the single most important contribution that I make to society, since teaching directly influences a large number of future business leaders,

land managers, policy makers, and voters. As a consequence, I am committed to excellence in both undergraduate and graduate teaching and I am excited to contribute to a rangeland ecology curriculum. My philosophy is to guide students to understand science as a process, rather than a static body of knowledge. Realizing that science is a continual chain of observation, experimentation and validation is essential to understanding the nature of scientific discovery.

My background includes teaching experience at the undergraduate and graduate level. I served as a teaching assistant for undergraduate courses in environmental science, wildlife biology, wildlife management and general ecology. I worked to demystify the scientific process by presenting scientific understanding as a lineage of historical ideas being tested and modified and by forcing students to develop hypotheses, collect data and conduct simple analyses. I believe that students, especially undergraduates, more thoroughly internalize concepts learned through active processes and tend to retain them longer than concepts conveyed in lectures. At the graduate level, I helped teach a systems ecology class at Colorado State University and I have presented several guest lectures in other courses. I believe that graduate courses should contain discussions of seminal scientific readings, rare lectures from experts punctuated by opportunities for students to apply these concepts to actual data – preferably data from their own research. This participatory approach allows graduate students to build depth and detail of understanding while confronting the unforeseen obstacles that arise in research.

Currently, I conduct regular workshops to educate land managers at local, state and federal levels about changing climatic conditions and the implications of climate change for natural resources and land use. This material focuses on understanding the science behind climate change including basic climatology and ecology. I also teach this material to students at the local community college and have gone into the classroom to work directly with students. In addition, I currently work closely with several graduate students and serve on numerous graduate student committees. I look forward to preparing and teaching a variety of undergraduate and graduate courses in terrestrial ecosystem, plant community and global change issues. Specific courses that I could lead or contribute to include undergraduate level classes in biology, ecology or natural resource management as well as graduate level courses in forest or grassland ecology, ecosystem ecology, ecosystem modeling, and ecological impacts of climate change.

JOHN BRADFORD – CV

Research Ecologist – USDA Forest Service
Northern Research Station
1831 Hwy 169 E.
Grand Rapids, MN 55744
Voice: (218) 326-7105
Fax: (218) 326-7123
jbradford@fs.fed.us

EDUCATION

Ph.D. 2004 Ecology Colorado State University (Graduate Degree program in Ecology)
B.A. 1996 Biology Cornell University

PROFESSIONAL EXPERIENCE

2006 – Present Research Ecologist USDA Forest Service, NRS, Grand Rapids, MN
2004 – 2006 Research Ecologist (postdoc) USDA Forest Service, RMRS, Fort Collins, CO
1998 – 2004 Research Associate Colorado State University, Fort Collins, CO

PUBLICATIONS

SCIENTIFIC JOURNALS

Fraver, S., Bradford, J.B., and B. J. Palik. In review. Improving tree age estimates derived from increment cores: a case study of *Pinus resinosa*. *Methods in Ecology* – Submitted.

Janowiak, M.K. Swanston, C.W., Nagel L.M., Palik, B.J., Twery, M.J., Bradford, J.B., Webster, C.R., Parker, L.R., Hille, A.T. and S.M. Johnson. Submitted. *Silvicultural Decision Making in an Uncertain Climate Future: A Process to Explore Considerations, Strategies, and Approaches*. *Journal of Forestry* – Submitted.

Bradford, J.B. In Review. The potential influence of forest management on regional carbon storage: an assessment of harvesting scenarios in the northern Lake States, USA. *Forest Science* – Submitted.

Bradford, J. B. and D. J. Kastendick. In Press. Age-related patterns of forest complexity and carbon cycling in pine and aspen ecosystems of Northern Minnesota, USA. *Canadian Journal of Forest Research* – In press.

Bradford, J.B., Palik, B.J., Fraver, S., and A.W. D'Amato. In Press. Growth dominance in a longterm red pine thinning experiment. *Canadian Journal of Forest Research* – In Press.

Bradford, J.B., Weishampel, P., Smith, M.L., Kolka, R. K, Birdsey, R.A., Ollinger, S.V. and M.G.Ryan. 2010. Carbon pools and fluxes in temperate forests: spatial variability and sampling requirements. *Forest Ecology and Management*: 259: 1245-1254.

Lauenroth, W.K. and J.B. Bradford. 2009. Ecohydrology of dry regions of the United States: Precipitation pulses and intraseasonal drought. *Ecohydrology* 2: 173–181.

Bradford, J.B., Weishampel, P., Smith, M.L., Kolka, R. K, Birdsey, R.A., Ollinger, S.V. and M.G.Ryan. 2009. Detrital Carbon pools in temperate forests: magnitude and potential for landscape-scale assessment. *Canadian Journal of Forest Research* 39: 802-813.

Bradford, J.B., and P.J Palik. 2009. A comparison of thinning methods in red pine: consequences

for stand-level growth and tree diameter. *Canadian Journal of Forest Research* 39: 489-496.

Bradford, J.B., Birdsey, R. A., Joyce, L. A., and M. G. Ryan. 2008. Tree age, disturbance history, and carbon stocks and fluxes in subalpine Rocky Mountain forests. *Global Change Biology*

14: 2882-2897.

Sherrill, K. R., Lefsky, M. A., Bradford, J. B. & Ryan, M. G. 2008. Forest structure estimation and

pattern exploration from discrete-return lidar in subalpine forests of the central Rockies.

Canadian Journal of Forest Research 38, 2081-2096.

Bradford, J.B. and N. T. Hobbs. 2008. Analysis of options for elk population management in Rocky

Mountain National Park. Journal of Environmental Management 86:520-528.

Binkley, D., Kashian, D. M., Boyden, S., Kaye, M. W., Bradford, J. B., Arthur, M. A., Fornwalt, P. J.,

and M. G. Ryan. 2006. Patterns of Growth Dominance in Forests of the Rocky Mountains, USA. Forest Ecology and Management 236: 193-201.

Bradford, J.B. Lauenroth, W.K., Burke, I.C. and J.M. Paruelo. 2006. The influence of climate, soils,

weather and land-use on primary production and biomass seasonality in the U.S. Great Plains. Ecosystems 9: 934-950.

Bradford, J.B. and W. K. Lauenroth. 2006. Controls over cheatgrass invasion: the importance of climate, soils, disturbance and seed availability. Journal of Vegetation Science 17: 693-704.

Lauenroth, W.K. and J.B. Bradford. 2006. Ecohydrology and the Partitioning of AET between transpiration and evaporation in a semiarid steppe. Ecosystems 9: 956-967.

Bradford, J.B., Lauenroth, W.K., and I.C. Burke. 2005. The impact of cropping on net primary production in the U.S. Great Plains. Ecology 86(7) 1863-1872.

Bradford, J.B., Hicke, J., and W. K. Lauenroth. 2005. The relative importance of light-use efficiency

modifications from environmental conditions and cultivation for estimation of large-scale net primary productivity. Remote Sensing of Environment 96(2) 246-255.

Adler, P.B. and J.B. Bradford. 2002. Compensation: an alternative method for analyzing diversityproductivity

experiments. Oikos 96: 411-420.

IN PREPARATION (ANTICIPATED SUBMISSION IN EARLY 2010)

Bradford, J.B. and A.W. D'Amato. In Preparation. Practical Insight from complicated data: A simple approach for quantifying benefits and tradeoffs in multi-objective land management. Frontiers in Ecology and the Environment.

Lauenroth, W.K. and J.B. Bradford. In Preparation. Ecohydrology of dry regions of the United States: Pulse dynamics and partitioning AET between transpiration and evaporation.

Ecohydrology.

D'Amato, A.W., Bradford, J.B., Palik, B.J., and S. Fraver. In Preparation. Forest management for

climate change mitigation versus adaptation: a retrospective look at long-term silvicultural experiments. Ecological Applications.

BOOK CHAPTERS

Kolka, R., Sebestyen, S., and J.B. Bradford. In Press. An Evolving Research Agenda of the Marcell Experimental Forest. Book Chapter.

Bradford, J. B. & Ryan, M. G. 2008. Quantifying Soil Respiration at Landscape Scales. Field Measurements for Forest Carbon Monitoring (ed C. M. Hoover), pp. 143-162. Springer, New York, NY.

Bradford, J. B., Weishampel, P. A., Smith, M. L., Kolka, R. K., Hollinger, D. Y., Birdsey, R. A., Ollinger, S. V. & Ryan, M. G. 2008. Landscape-Scale Carbon Sampling Strategy – Lessons Learned. Field Measurements for Forest Carbon Monitoring (ed C. M. Hoover), pp. 227-238. Springer, New York, NY.

BOOK REVIEWS

- Bradford, J.B. In press. Handbook of Ecological Modelling and Informatics, edited by S. E. Jorgensen, T-S. Chon, and F. Recknagel. Landscape Ecology.
- Bradford, J.B. 2009. P. H. Freer-Smith, M. S. J. Broadmeadow and J. M. Lynch (eds): Forestry and Climate Change. Landscape Ecology 24: 297-298.
- Bradford, J.B. 2007. Ecology of Hierarchical Landscapes—from Theory to Application, edited by Jiquan Chen, Sari Saunders, Kimberley Brososke and Thomas Crow. Landscape Ecology (2007) 22:1265–1266

REPORTS

- Hobbs, N.T. and Bradford, J.B. 2004. Contraceptive control of wild horse populations: analysis of options. Bureau of Land Management internal report.
- Hobbs, N.T. and Bradford, J.B. 2003. Analysis of options for elk population management in Rocky Mountain National Park. National Park Service internal report.

SELECTED INVITED PRESENTATIONS

- Bradford, J.B. 2010. Forest net primary productivity, climate and weather in the Northern Lake States. Hanover Seminar Series. Michigan State University, East Lansing, MN.
- Bradford, J.B. 2010. Forest net primary productivity and weather variability in the Northern Lake States. Department of Biological Sciences Seminar Series. Wayne State University, Detroit, MN.
- Bradford, J.B. 2010. Land use in a changing world: impacts and opportunities. Department of Renewable Resources seminar series. University of Wyoming, Laramie, WY.
- Bradford, J.B. 2009. The potential influence of forest management on regional carbon storage: an assessment of harvesting scenarios in the northern Lake States. Carbon in Northern Forests, Integration of Research and Management. Traverse City, MI.
- Bradford, J.B. 2009. Climate Change Scientific Foundations: Past, Present and Future. Great Lakes Public Affairs Round Table. Ashland, WI.
- Bradford, J.B. and Kashian, D. 2009. Drought-related mortality and growth decline in aspen forests. Forest Health Monitoring State Cooperators Meeting. St. Paul, MN.
- Bradford, J.B., Weishampel, P, Smith, M.L., Kolka, R., Birdsey, R. A., Ollinger, S. V., Ryan, M. G. 2008. Carbon pools and fluxes in temperate forest landscapes: variability and implications for sampling design. IUFRO Landscape Ecology International Conference, Chengdu, China.
- Bradford, J.B., P.B. Reich and K. Wythers. 2008. Climate change and forest productivity in the Northern Lake States. Minnesota Research Review. Duluth, MN.
- Bradford, J.B. 2008. Climate change, forest productivity and carbon cycling in Lake States Forests. University of Minnesota North Central Research and Outreach Center Seminar Series. Grand Rapids, MN.
- Bradford, J.B. 2006. Landscape-scale forest carbon dynamics: Challenges to bridging the gap between plots and pixels. University of Idaho Geography Department seminar, Moscow, ID.
- Bradford, J. B., Schimel D. S., Monson, R., Sacks, B., Ryan, M.G., and L.E Scott-Denton. 2006. Biometric versus eddy covariance estimates of net ecosystem carbon balance: a comparison in the subalpine Rocky Mountains. Integrated Land-Ecosystem-Atmosphere Processes meeting, Boulder, CO.

Bradford, J.B. 2005. Biometric ecosystem production measurements for comparison with eddy covariance measurements. Ameriflux annual meeting, Boulder, CO.

Bradford, J.B. 2004. The influence of climate, soils, weather and land-use on ecosystem processes

in the U.S. Great Plains. Seminar Series - Desert Research Institute, Reno, NV.

GRANTS RECEIVED (PI OR CO-PI)

Assessing the Environmental Sustainability and Capacity of Forest-Based Biofuel Feedstocks within the Lake States Region. 2009-2014. US Department of Energy. \$2,837,454.

Adaptation and mitigation options on the Superior National Forest in response to climate change:

monitoring, assessing and forecasting. 2009-2012. American Recovery and Reinvestment Act. \$607,000.

Linking Water Availability with Forest Productivity. 2010-2012. Northern Research Station Climate

Change Science Program. \$124,596.

Annual vegetation monitoring to detect climate change impacts on experimental forests. 2009-2011. Northern Research Station Climate Change Science Program. \$155,000

Forest complexity in the Lake States: ownership patterns and implications for carbon storage. 2009-2011. USFS Forest Inventory and Analysis Program. \$40,000.

Drought-related mortality and growth decline in aspen forests. 2009-2012. USFS Forest Health Monitoring Program, Evaluation Monitoring. \$91,000.

Impacts of woody biomass harvesting on saproxylic communities, nutrient availability, and productivity in aspen ecosystems. 2008-2011. Minnesota Forest Research Council.

\$294,000.

Effects of Red Pine Thinning and Stand Age on Ecosystem Carbon Pools and Fluxes. 2008-2011.

Agenda 2020 Technology Alliance. \$145,000.

Effects of blowdown, salvage logging, and wildfire on regeneration and fuel characteristics in Minnesota's forests. 2008-2011. Joint Fire Sciences Program. \$180,714.

Sustainable Forest Management in the Context of Climate Change: Training and Tools for Strategy

Development and Application. 2008-2010. USFS Global Change Program. \$194,505

Integrating Landscape-scale Forest Measurements with Remote Sensing and Ecosystem Models

to Improve Carbon Management Decisions. 2008-2011. NASA carbon cycle science.

\$1,148,206.

An integrated initiative on climate change in northern Forests. 2007-2009. University of Minnesota

CFANS program. \$200,000.

Quantifying Structural Root Contributions to Carbon Storage. 2007-2008. USDA FIA. \$60,000.

Environmental and Land use controls over Cheatgrass invasion. 2002 – 2004. NASA Earth System Science Graduate Student Fellowship. \$77,000.

Productivity and Carbon cycling in the U.S. Great Plains – the importance of climate, landuse and

soils. 1999 – 2001. National Science Foundation Graduate Student Fellowship. \$89,000

CSU College of Natural Resources Graduate Scholarships. 1998-2002. \$23,500

John Bradford – CV – Page 5 of 5

PROFESSIONAL SERVICE

ADJUNCT FACULTY: University of Minnesota, Department of Forest Resources

PROFESSIONAL SOCIETIES:

- Ecological Society of America
- American Geophysical Union
- International Association for Landscape Ecology

AD-HOC JOURNAL REVIEWS

- Nature
- Ecology
- Ecological Applications
- Global Change Biology
- Biogeochemistry
- Global Ecology and Biogeography
- Forest Ecology and Management
- Remote sensing of environment
- International Journal of Remote Sensing
- Research Letters in Ecology
- Canadian Journal of Forest Research
- JGR- Atmospheres
- Oecologia
- Ecosystems
- Diversity and Distributions

PROPOSAL REVIEWS

- British Columbia Forest Science Program (2007 – Present)
- NASA Postdoctoral Program (twice yearly) (2007 – Present)
- National Science Foundation Long-term Research in Environmental Biology (2008 – Present)
- National Science Foundation Ecosystem Science Program (2009 – Present)
- USDA CSREES Graduate and Postgraduate Fellowship (2009 – Present)
- University of Minnesota Cloquet Forestry Center External proposal reviewer (2009 – Present)

TEACHING AND OUTREACH

- Forest response to climate change: obstacles and opportunities. Several Locations 2008-10
- Climate change and Minnesota Forests. Minnesota Forest Resource Council. 2007-9
- Climate change in Minnesota. Itasca Community College. 2007-9
- Mentoring College student interns at Itasca Community College 2006-9
- High school student mentoring – USFS RMRS 2005
- Supervised college teaching for Systems Ecology Course at CSU 2003
- Invited lecture: Remote sensing of primary productivity, Ecosystem Ecology 2002
- Invited lecture: Remote sensing of vegetation, Range Measurements 2002
- Graduate Teaching Assistant, Environmental Conservation, CSU 1999
- Teaching Assistant, Wildlife Ecology, Cornell University 1995-6

AWARDS

- USFS Northern Research Station Outstanding Early Career Scientist 2009
- USFS Award for Exceptional Annual Performance 2007, 2008, 2009
- NASA Earth System Science Graduate Student Fellowship 2002 –2004
- CSU College of Natural Resources Graduate Scholarships 2002 –2003
- National Science Foundation Graduate Student Fellowship 1999 –2002
- CSU College of Natural Resources Graduate Scholarships 1999 –2000
- CSU College of Natural Resources Tuition Scholarship 1998 –1999
- "Caring for the Land" Award for integrity/performance from the USFS 1993