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Date of Birth: 16 July, 1958

Education:

1987 Ph.D., Michigan State University
1983 M.S., University of Idaho
1981 B.S. *Cum Laude*, Ohio State University

Academic Appointments:

2009 to Present	Burton V. Barnes Collegiate Professor of Ecology, School of Natural Resources & Environment, University of Michigan
2004 to Present	Professor, Department of Ecology and Evolutionary Biology
2000 to Present	Professor, School of Natural Resources & Environment University of Michigan
1994 to 2000	Associate Professor, School of Natural Resources & Environment, University of Michigan
1988 to 1994	Assistant Professor, School of Natural Resources & Environment, University of Michigan
1987 to 1988	Post-Doctoral Research Associate, Department of Soil Science, and Department of Ecology, Evolution and Behavior University of Minnesota
1983 to 1987	Graduate Research Assistant, Department of Forestry Michigan State University

Awards and Honors:

Francis Clark Lectureship: Frontiers in Soil Biology – Awarded by the Soil Science Society of America for pioneering research in soil microbiology and biochemistry - 2009

Students for SNRE Outstanding Faculty Teaching Award – 2006-2007

Best Paper Award, Division S-7, Soil Science Society of America Annual Meeting, 1993, Cincinnati, OH.

Best Paper Award, Division S-7, Soil Science Society of America Annual Meeting, 1986, New Orleans, LA.

Graduate Research Fellowships, Department of Forestry, Michigan State University, 1984, 1985.

Virginia Mowery Graduate Scholarship, Department of Forest Resources, University of Idaho, 1982.

Sigma Xi, Xi Sigma Pi, Gamma Sigma Delta

Books and Refereed Edited Volumes:

Barnes, B.V., D.R. Zak, S. Denton. and S.H. Spurr. 1998. Forest Ecology, 4th Edition. John Wiley & Sons, New York, New York.

Curtis, P.S., E.G. O'Neill, J.A. Teeri, D.R. Zak, and K.S. Pregitzer (eds.) 1995. Belowground Responses to Rising Atmospheric CO2: Implications for Plants, Soil Biota, and Ecosystem Processes. Kluwer Academic Publishers, The Netherlands.

Refereed Publications (in chronological order):

Zak, D.R., G.E. Host, and K.S. Pregitzer. 1986. Landscape variation of nitrogen mineralization and nitrification. Canadian Journal of Forest Research 16:1258-1263.

Zak, D.R. and K.S. Pregitzer. 1988. Nitrate assimilation by herbaceous ground flora in late successional forests. Journal of Ecology 76:537-546.

Zak, D.R., G.E. Host, and K.S. Pregitzer. 1989. Regional variability in nitrogen mineralization, nitrification, and overstory biomass in northern Lower Michigan. Canadian Journal of Forest Research 19:1521-1526.

Zak, D.R., P.M. Groffman, K.S. Pregitzer, S. Christensen, and J.M. Tiedje. 1990. The vernal dam: plant-microbe competition for nitrogen in northern hardwood forests. Ecology 71:651-656.

Zak, D.R., and K.S. Pregitzer. 1990. Spatial and temporal variability of nitrogen cycling in northern Lower Michigan. Forest Science 36:367-380.

Zak, D.R., D.F. Grigal, S. Gleeson, and D. Tilman. 1990. Carbon and nitrogen cycling during secondary succession: constraints on plant and microbial biomass. Biogeochemistry 11:111-129.

Updegraff, K., D.R. Zak, and D.F. Grigal. 1990. The nitrogen budget of a hybrid poplar plantation in Minnesota. Canadian Journal of Forest Research 20:1818-1822.

Zak, D.R., A.B. Hairston, and D.F. Grigal. 1991. Topographic influences on nitrogen cycling within an upland pin oak ecosystem. Forest Science 37: 45-65.

Johnson, N.C., D.R. Zak, D. Tilman, and L.F. Pfleger. 1991. Dynamics of vesicular-arbuscular mycorrhizae during old field succession. Oecologia 86:349-358.

Zak, D.R., and D.F. Grigal. 1991. Nitrogen mineralization, nitrification, and denitrification in upland and wetland ecosystems. Oecologia 88:189-196.

Merrill, A.G., and D.R. Zak. 1992. Factors controlling denitrification in upland and wetland forests. Canadian Journal of Forest Research 22:1597-1604.

Randlett, D.L., D.R. Zak, and N.W. MacDonald. 1992. Sulfate adsorption and microbial immobilization in northern hardwood forests along an atmospheric deposition gradient. Canadian Journal of Forest Research 22:1843-1850.

Zak, D.R., K.S. Pregitzer, P.S. Curtis, J.A. Terri, R. Fogel, and D.L. Randlett. 1993. Elevated atmospheric CO_2 and feedback between C and N cycles. Plant and Soil 151:105-117.

Zak, D.R., D.F. Grigal, and L. Ohmann. 1993. Kinetics of microbial respiration and nitrogen mineralization in Lake States forests**.** Soil Science Society of America Journal 57:1100-1106.

Groffman, P.M., D.R. Zak, S. Christensen, A. Mosier. 1993. Early spring nitrogen dynamics in a temperate forest landscape. Ecology 74:1579-1585.

Holmes, W.E., and D.R. Zak. 1994. Microbial biomass dynamics and net nitrogen mineralization in northern hardwood forests. Soil Science of America Journal 58:238-243.

Babbar, L.I., and D.R. Zak. 1994. Nitrogen cycling in coffee agroecosystems: net nitrogen mineralization and nitrification in the presence and absence of shade trees. Agriculture, Ecosystems, and Environment 48:107-113.

McFadden, J.P., N.W. MacDonald, J.A. Witter, and D.R. Zak. 1994. Fine-textured soil bands and oak forest productivity in northwestern lower Michigan, U.S.A. Canadian Journal of Forest Research 24:928-933.

Gonzalez, O.J. and D.R. Zak. 1994. Geostatistical analysis of soil properties in a tropical dry forest, St. Lucia, West Indies. Plant and Soil 163:45-54.

Toland, D. and D.R. Zak. 1994. Soil respiration in intact and clearcut northern hardwood forests. Canadian Journal of Forest Research 24:1711-1716.

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Curtis, P.S., D.R. Zak, K.S. Pregitzer, and J.A. Teeri. 1994. Above- and belowground response of *Populus grandidentata* to elevated atmospheric CO_2 and soil N availability. Plant and Soil 165:45-51.

Curtis, P.S., E.G. O'Neill, J.A. Teeri, D.R. Zak, and K.S. Pregitzer. 1994. Belowground responses to rising CO_2: Implications for plant, soil biota and ecosystem processes. Plant and Soil 165:1-6.

MacDonald, N.W., D.R. Zak and K.S. Pregitzer. 1995. Temperature effects on the kinetics of microbial respiration and the net mineralization of N and S. Soil Science Society of America Journal 59:233-240.

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Zak, D.R., D. Ringelberg, K.S. Pregitzer, D.L. Randlett, D.W. White, and P.S. Curtis. 1996. Soil microbial communities beneath *Populus grandidentata* Michx. growing at elevated atmospheric CO_2. Ecological Applications 6:257-262.

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Rothstein, D.E., D.R. Zak, and K.S. Pregitzer. 1996. Nitrate deposition in northern hardwood forests and the N metabolism of *Acer saccharum* Marsh. Oecologia 108:338-344.

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Kubiske, M.E., K.S. Pregitzer, C.J. Mikan, D.R. Zak, J.L. Maziasz, and J.A. Teeri. 1997. *Populus tremuloides* photosynthesis and crown architecture in response to elevated CO_2 and soil N availability. Oecologia 110: 328-336.

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Zogg, G.P., D.R. Zak, K.S. Pregitzer, and A.J. Burton. 2000. Microbial immobilization and the retention of anthropogenic nitrate in northern hardwood forests. Ecology 81: 1858-1866.

Rothstein, D.E., D.R. Zak, K.S. Pregitzer, P.S. Curtis. 2000. Kinetics of nitrogen uptake by *Populus tremuloides* in relation to atmospheric CO_2 and soil nitrogen availability. Tree Physiology 20: 265-270.

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Phillips, R.L., D.R. Zak, and W.E. Holmes, and D.C. White. 2002. Microbial community composition and function beneath temperate trees exposed to elevated atmospheric CO_2 and O_3. Oecologia 131:236-244.

Kubiske, M.E., D.R. Zak, K.S. Pregitzer, Y. Takeuchi. 2002. Three years of photosynthetic acclimation to elevated atmospheric CO_2: overstory *Populus tremuloides* and understory *Acer saccharum*: interactions with shade and soil N. Tree Physiology 22: 321-329.

Saiya-Cork, K.R., R. L. Sinsabaugh, and D. R. Zak. 2002. The effects of long-term nitrogen deposition on extracellular enzyme activity in an *Acer saccharum* forest soil. Soil Biology & Biochemistry 34: 1309-1315.

Davidson, E.A., K. Savage, P. Bolstad, D.A. Clark, P.S. Curtis, D.S. Ellsworth, P.J. Hanson, B.E. Law, Y. Luo, K.S. Pregitzer, J.C. Randolph, D.R. Zak. 2002. Belowground carbon allocation in forests estimated from litterfall and IRGA-based soil respiration measurements. Forest and Agricultural Meterology 113: 39-51.

Larson, J.L., D.R. Zak, and R.L. Sinsabaugh. 2002. Microbial activity beneath temperate trees growing under elevated CO_2 and O_3. Soil Science Society of America 66:1848-1856.

Percy, K.E., C. S. Awmack, R. L. Lindroth, M.E. Kubiske, B.J. Kopper, J.G. Isebrands, K.S. Pregitzer, G.R. Hendrey, R.E. Dickson, D.R. Zak, E. Oksanen, J. Sober, R. Harrington, & D.F. Karnosky. 2002. Altered performance of forest pests under CO_2- and O_3 - enriched atmospheres. Nature 420: 403-407.

Karnosky, D.F., D.R. Zak, K.S. Pregitzer, C.S. Awmack, J.G. Bockheim, R.E. Dickson, G.R. Hendrey, G.E. Host, J.S. King, B.J. Kopper, E.L. Kruger, M.E. Kubiske, R.L. Lindroth, W.J. Mattson, E.P. McDonald A. Noormets, E. Oksanen, W.F.J. Parsons, K.E. Percy, G.K. Podila, D.E. Riemenschneider, P. Sharma, A. Sober, J. Sober, W.S. Jones, S. Anttonen, E. Vapaavuori, and J.G. Isebrands. 2003. Tropospheric O_3 moderates responses of temperate hardwood forests to elevated CO_2: A synthesis of molecular to ecosystem results from the Aspen FACE project. Functional Ecology 17:287-307.

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Zak, D.R., W.E. Holmes, and K.S. Pregitzer. 2007. Atmospheric CO_2 and O_3 alter the flow of ^{15}N in developing forest ecosystems. Ecology 88: 2630-2639.

Blackwood, C.B., D.R. Zak and J.S. Buyer. 2007. Tilting at windmills: a response to a recent critique of terminal restriction fragment length polymorphism data - Reply. Appl. Environ. Microbiol. 73: 8141-8042.

Homockel, K.S., D.R. Zak and C.B. Blackwood. 2007 Does atmospheric N deposition alter the abundance and activity of lignolytic fungi in forest soils? Ecosystems 10: 1278-1286.

Pregitzer, K.S., A.J. Burton, D.R. Zak, and A.F. Talhelm. 2008. Simulated chronic N deposition increases carbon storage in northern temperate forests. Global Change Biology 14: 142–153.

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Zak, D.R., W.E. Holmes, A.J. Burton, K.S. Pregitzer and A.F. Talhelm. 2008. Atmospheric NO_3^- deposition increases soil organic matter by slowing decomposition in a northern hardwood ecosystem. Ecological Applications 18: 2016-2027.

Hassett, J.E., D.R. Zak, C.B. Blackwood, and K.S. Pregitzer. 2009. Are basidiomycete laccase gene abundance and composition related to reduced lignolytic activity under elevated atmospheric NO_3^- deposition in a northern hardwood forest? Microbial Ecology 57: 728-739.

Kellner, H., and D.R. Zak. 2009. Expression of fungal type I polyketide synthase genes in a forest soil. Soil Biology and Biochemistry 41: 1344-1347.

Chung, H., D.R. Zak, and P.B. Reich. 2009. Microbial assimilation of new photosynthate is altered by plant species richness and nitrogen deposition. Biogeochemistry 94: 233-242.

Talhelm, A.F., K.S. Pregitzer, and D.R. Zak. 2009. Species-specific responses to atmospheric CO_2 and O_3 mediate changes in soil carbon. Ecology Letters. 12: 1-10.

Eisenlord, S.D., and D.R. Zak. 2009. Chronic simulated atmospheric N deposition alters actinobacterial community composition in forest floor and surface soil. Soil Science Society of America Journal *in press*.

Edwards, I.P., and D.R. Zak. 2009. Mechanisms of fungal community assembly in a forested landscape. Molecular Ecology *in press*.

Waldrop, M.P., D.R. Zak, C.B. Blackwood, and C.D. Curtis. 2009. Plant diversity influences ecosystem function by modifying the composition, diversity, and function of soil microbial communities. Soil Biology & Biochemistry *in review.*

McGuire, K.L., D.R. Zak, I.P Edwards, C.B. Blackwood and Rima Upchurch. 2009. Ectomycorrhical maintenance of overstory monodominance in a tropical rainforest Oecologia *in review.*

Fornara, D.A., R. Bardgett, S. Steinbeiss, D.R. Zak, G. Gleixner, and D. Tilman. 2009. Plant effects on soil N mineralization mediated by the composition of multiple soil organic fractions. Oecologia *in review.*

Edwards, I.P., D.R. Zak, H. Kellner, and K.S. Pregitzer. 2009. Anthropogenic N deposition induces a microbial mechanism enhancing soil C storage. Proceeding of the National Academy of Science *in revision.*

Refereed Book Chapters:

Christensen, S., P.M. Groffman, A. Mosier, and D.R. Zak. 1991. Rhizosphere denitrification: a minor process but an indicator of decomposition activity. *In* (N.P. Revsbech and J. Sorensen, Eds.) Denitrification in Soils and Sediments, Plenum Press, NY.

Reed, D.D., G.D. Mroz, H.O. Liechty, K.S. Pregitzer, A.J. Burton, D.R. Zak, J.A. Witter, and N.W. MacDonald. 1994. Studying the effects of air pollution on forests along exposure gradients: Experiences in the United States and opportunities for cooperation. p 109-116. *In* climate and atmospheric deposition studies in forests (Solon, J., E. Roo-Sielinska, and A. Bytnerowicz, eds.) Institute of Geography and Spatial Organization, Polish Academy of Sciences Conference Papers 19.

Curtis, P.S., D.R. Zak, K.S. Pregitzer, J. Lussenhop, and J.A. Teeri. 1996. Linking above- and belowground responses to rising CO_2 in northern deciduous forest species. pp. 41-51 *In* (Koch, G.W., and H.A. Mooney, eds.) Carbon Dioxide and Terrestrial Ecosystems. Academic Press, NY.

Zak, D.R., and K.S. Pregitzer. 1998. Integration of ecophysiological and biogeochemical approaches to ecosystem dynamics. *In* (P.M. Groffman and M.L. Pace, eds.) Successes, limitations, and frontiers in ecosystem science. Springer-Verlag, Pub. Inc.

Pregitzer, K.S., D.R. Zak, W.M. Loya, N. J. Karberg, J.S. King and A.J. Burton. 2006. The contribution of roots systems to biogeochemical cycles in a changing world.*In* (Z. Cardon & J. Whitbeck, eds.) The Rhizosphere – An Ecological Perspective. Elsevier, The Netherlands.

Refereed Reports:

Kling, G.W., K. Hayhoe, L.B. Johnson, J.J. Magnuson, S. Polasky, S.K. Robinson, B.J. Schuter, M.M. Wander, D.J. Wuebbles, and D.R. Zak. 2003. Confronting Climate Change in the Great Lakes Region. Union of Concerned Scientists, Cambridge, Massachusetts, and Ecological Society of America, Washington, D.C.

Funded Research

Current Research Support - *$ 6,539,989*

1. Principal Investigator: D.R. Zak
   Title: LTREB: Long-term ecosystem response to chronic atmospheric N deposition.
   Start Date: 8/15/08 End Date: 8/14/13
   Amount of Award/Sponsor: $201,284/ NSF Ecosystems Panel
2. Principal Investigators: D.R. Zak and K.S. Pregitzer
   Title: Ecosystem response to elevated CO_2 and O_3 is controlled by plant-microbe interactions in soil.
   Start Date: 8/15/05 End Date: 8/14/09
   Amount of Award/Sponsor: $ 1,538,705/DOE Program for Ecosystem Research
3. Principal Investigators: K.S. Pregitzer, D.R. Zak and A.J. Burton
   Title: From Genes to Ecosystems: Mechanisms Controlling Long-Term Ecosystem Response to Nitrogen Deposition.
   Start Date: 9/1/06 End Date: 8/31/09
   Amount of Award/Sponsor: $800,000/ NSF Ecosystems Panel
4. Principal Investigators: D.R. Zak et al.
   Title: Impacts of elevated CO_2 and O_3, alone and in combination, on the structure and functioning of a northern hardwood forest ecosystem: operating the aspen FACE experiment.
   Start Date: 6/1/08 End Date: 5/31/11
   Amount of Award/Sponsor: $4,000,000 total; $ 553,413 to Zak /DOE Program for Ecosystem Research

Previous Research Awards (in chronological order) - ***$12,691,742***

1. Principal Investigator: D.R. Zak
   Title: Patterns of Carbon & Mineralization in Forest Ecosystems.
   Start Date: 9/1/89 End Date: 8/31/90
   Amount of Award/Sponsor: $8,375/USDA-Forest Service
2. Principal Investigators: D.R.Zak and L. Babbar
   Title: Biological Regulation of Nitrogen Cycling in Coffee Plantations.
   Start Date: 5/1/89 End Date: 4/30/90
   Amount of Award/Sponsor: $19,084/UM Rackham and OVPR
3. Principal Investigator: D.R. Zak
   Title: Nitrogen Loss and Retention in Northern Hardwood Forests.
   Start Date: 10/1/89 End Date: 9/30/91
   Amount of Award/Sponsor: $59,819/USDA
4. Principal Investigators: J. Witter and D.R. Zak
   Title: Effects of an Air Pollution Gradient on Hardwood Forests in the Great Lakes Region.
   Start Date: 10/1/89 End Date: 9/30/91
   Amount of Award/Sponsor: $40,000/USDA
5. Principal Investigators: J. Witter and D.R. Zak
   Title: Biological and Physio-Chemical Mechanisms on Sulfate Retention along an Atmospheric Pollution Gradient.
   Start Date: 4/11/89 End Date: 6/30/90

Amount of Award/Sponsor: $5,000/UM Michigan Memorial-Phoenix Project

6. Principal Investigators: D.R. Zak and O. Gonzalez
Title: Spatial Variability of Tropical Soil Fertility.
Start Date: 5/1/90 End Date: 4/1/91
Amount of Award/Sponsor: $4,000/UM Population-Environment Dynamics Program

7. Principal Investigator: D.R. Zak
Title: Global Change and Elevated Carbon Dioxide: Instrumentation to Measure Carbon Flux Between Plants and Soil Microorganisms.
Start Date: 12/15/90 End Date: 2/15/91
Amount of Award/Sponsor: $20,000/UM-OVPR

8. Principal Investigators: K.S. Pregitzer, D.R. Zak and P.S. Curtis
Title: Atmospheric CO_2 and Feedback in the Plant-Soil System.
Start Date: 10/1/90 End Date: 3/31/93
Amount of Award/Sponsor: $188,000/USDA

9. Principal Investigators: D.R. Zak, B.V. Barnes, and R. Fogel
Title: Climate Change and Elevated Atmospheric CO_2: Shifts in Carbon Flux Between Plants and Soil Microorganisms.
Start Date: 10/1/91 End Date: 9/30/93
Amount of Award/Sponsor: $46,586/USDA

10. Principal Investigators: J. Witter, D.R. Zak, K. Pregitzer, G. Mroz, and D. Reed
Title: Climate and Pollutant Influences on Ecosystem Processes in Northern Hardwood Forests.
Start Date: 8/1/91 End Date: 9/30/94
Amount of Award/Sponsor: $446,000/USDA-Forest Service

11. Principal Investigators: J. Teeri, D.R. Zak, K. Pregitzer, P. Curtis, and J. Lussenhop
Title: Elevated CO_2 and Feedback in Terrestrial Ecosystems.
Start Date: 6/15/90 End Date: 5/30/91
Amount of Award/Sponsor: $25,000/U of M Global Change Program

12. Principal Investigators: J. Teeri, D.R. Zak, K. Pregitzer, P. Curtis, and J. Lussenhop
Title: Above and Below Ground Ecosystem Responses to Elevated Atmospheric CO_2
Start Date: 7/1/92 End Date: 6/30/96
Amount of Award/Sponsor:$1,250,000/DOE-National Institute for Global Environmental Change

13. Principal Investigators: K.S. Pregitzer, D.R. Zak, and R. Hendrick
Title: Effects of Soil Temperature and Nitrate on Fine Root Dynamics in Northern Hardwood Forests.
Start Date: 1/1/93 End Date: 12/31/96
Amount of Award/Sponsor: $491,998/NSF Ecosystems Panel

14. Principal Investigators: D.R. Zak and K.S. Pregitzer
Title: Changes in the Flux of Carbon Between Plants and Soil Microorganisms at Elevated CO_2: Physiological Processes with Ecosystem-Level Implications.
Start Date: 8/15/93 End Date: 8/14/96
Amount of Award/Sponsor: $414,666/DOE-Program for Ecosystem Research

15. Principal Investigators: D.R. Zak, K.S. Pregitzer, and M.E. Kubiske

Title: The Belowground Response of Plants and Soil Microorganisms to Elevated CO_2: Physiological and Ecosystem-Level Processes.
Start Date: 8/15/96 End Date: 8/14/99
Amount of Award/Sponsor: $733,555/DOE Program for Ecosystem Research

16. Principal Investigator: D. Karnosky
Co-PI: D.R. Zak and 13 PI from universities in the Great Lakes region
Title: FACTS II - A free atmospheric CO_2 release experiment in Lake States forests.
Start Date: 7/1/95 End Date: 6/30/02
Amount of Award/Sponsor: $1,078,061/ NSF TECO
Location: Rhinelander, WS

17. Principal Investigator: D. Karnosky
Co-PI: D.R. Zak and 13 PI from universities in the Great Lakes region
Title: FACTS II – Equipment acquisition for a free atmospheric CO_2 release experiment.
Start Date: 7/1/95 End Date: 6/30/02
Amount of Award/Sponsor: $250,973/ NSF Academic Infrastructure Program

18. Principal Investigator: D. Karnosky
Co-PI: D.R. Zak and 13 PI from universities in the Great Lakes region
Title: FACTS II - A free atmospheric CO_2 release experiment in Lake States forests.
Start Date: 7/1/95 End Date: 6/30/02
Amount of Award/Sponsor: $2,619,557/DOE Program for Ecosystem Research

19. Principal Investigators: K.S. Pregitzer, D.R. Zak, and A.J. Burton
Title: Cycling of Nitrate in Northern Hardwood Forests: Regulation and Consequences of N Saturation.
Start Date: 6/1/96 End Date: 9/15/99
Amount of Award/Sponsor: $758,643/NSF Ecosystems Panel

20. Principal Investigators: L. Walter, L. Ambriola, P. Meyers, G. Kling, D.R. Zak
Title: Carbon Exchange Dynamics in a Temperate Forested Watershed: A Laboratory and Field Multidisciplinary Study.
Start Date: 3/1/96 End Date: 9/15/99
Amount of Award/Sponsor: $800,000/US EPA

21. Principal Investigators: R.L. Sinsabaugh, D.L. Moorehead, and D.R. Zak
Title: Biochemical enhancement of soil carbon storage by nitrogen deposition.
Start Date: 8/1/03 End Date: 7/31/06
Amount of Award/ Sponsor: $600,000/DOE Carbon Sequestration Program

22. Principal Investigator: D.R. Zak
Title: Acquisition of equipment to study the influence of global change of carbon and nitrogen cycling in terrestrial ecosystems.
Start Date: 6/1/98 End Date: 5/30/00
Amount of Award/Sponsor: $ 300,000/OVPR-SNRE-DOE

23. Principal Investigators: D.R. Zak and K.S. Pregitzer
Title: Belowground responses of early- and late-successional trees to elevated CO_2 and O_3: Alteration of soil food webs and DOC production.
Start Date: 8/14/99 End Date: 8/14/02

Amount of Award/Sponsor: $804,425/DOE Program for Ecosystem Research

24. Principal Investigators: K.S. Pregitzer, D.R. Zak and A.J. Burton
Title: Nitrogen saturation: Mechanisms and consequences of altered ecosystem metabolism.
Start Date: 9/1/03 End Date: 8/31/06
Amount of Award/Sponsor: $853,000/ NSF Ecosystems Panel

25. Principal Investigator: D.R. Zak
Title: Plant diversity and ecosystem function are linked by microbial communities in soil
Start Date: 9/1/03 End Date: 8/31/07
Amount of Award/Sponsor: $275,000/USDA Soil & Soil Biology

26. Principal Investigators: R.L. Sinsabaugh, D.L. Moorehead, and D.R. Zak
Title: Biochemical enhancement of soil carbon storage by nitrogen deposition.
Start Date: 8/1/06 End Date: 7/31/08
Amount of Award/ Sponsor: $600,000/DOE Carbon Sequestration Program

Post-Doctoral Scholars and Graduate Students Supervised (*degree received/postdoc completed)

Post-Doctoral Scholars:
Melany Fisk*
Gregory Zogg*
Rebecca Phillips*
Mark Waldrop*
Kurt Smemo*
Christopher Blackwood*
Kirsten Hofmockel*
Harald Kellner*
Ivan Edwards

Ph.D. Committee Chair:
Otto Gonzales*
Liana Babbar*
William Holmes*
Gregory Zogg*
Carl Mikan*
David Rothstein*
Jared DeForest*
Haegun Chung*
Krista McGuire*(co-chair)
Lesley Sefcik*
John Hassett
Dana Thomas (co-chair)
Huijui Gan (co-chair)

Master's Committee Chair:
David Jones*
William Holmes*
Amy Merrill*
Diana Randlett*
David Toland*
Nancy French*
David Rothstein*
Thomas Iseman*
Rachael Meyer*
Jennifer Larson*
Anne Finan*
John Hassett*
William Eddy*
Sarah Eisenlord*
Lauren Hoffman
Elizabeth Entwistle
Sierra Patterson

Undergraduate Honors Thesis Chair:
Steve LuDuc*
Casey Curtis*
Kalub Fedak*
Alaina Ritter*
Lauren Cline*

Courses Taught

General Ecology – EEB 281
Soil Ecology – NRE 430/EEB 489
Ecosystem Ecology – NRE 476/EEB 476
Biodiversity & Ecosystem Function: Are There Any Links? NRE 639-063 Graduate Seminar

Ecosystem Science in the Rockies – GEO/ENVIRON 341

Professional Societies and Service

Affiliations:

Ecological Society of America
Soil Science Society of America
International Society for Microbial Ecology
American Association for the Advancement of Science

Editorial Boards:

1998 to 2000 - *Forest Science*, Associate Editor – Ecology.
1998 to 2005 - *Soil Science Society of America Journal*, Associate Editor – Microbial Ecology.
2001 to 2004 – *Ecology and Ecological Monographs*, Associate Editor – Microbial Ecology and Biogeochemistry
2008 to Present – *Ecological Applications,* Associate Editor – Microbial Ecology and Biogeochemistry
2008 to Present –*Nature* Reader Advisory Board

Manuscripts Reviewed for:

Applied and Environmental Microbiology, Biological Conservation, Canadian Journal of Forest Research, Ecology, Ecological Applications, Ecosystems, Forest Science, Geoderma, Global Change Biology, Journal of Ecology, Journal of Environmental Quality, Mycological Research, Nature, Oecologia, Pedobiologia, Plant and Soil, Scandinavian Journal of Forest Research, Science, Soil Biology & Biochemistry, Soil Science Society of America Journal

Review Panels:

NSF LTER Panel 2008
NSF Ecosystems Studies Program Panel 2001 - 2005
Scientific Advisory Committee, Duke FACE Experiment 2003-2006
NSF Site Review Team – National Phytotron Laboratory 1999
NSF Site Review Team – Toolik Lake and Bonanza Creek LTERs 2001
Terrestrial Carbon Processing Program, Dept. of Energy 1994, 1995

Grants Reviewed for:

National Science Foundation Ecosystems Panel and Ecology Panel, Department of Energy, U.S. Department of Agriculture, Kearney Foundation

National Advisory Boards

Science Advisory Board, Climate Change Program, Oak Ridge National Lab – 2009-2011
National Technical Advisory Committee, National Institute of Global Environmental Change (NIGEC), Department of Energy 2001-2003

Invited Presentations:

Ecology and Evolutionary Biology Program, Michigan State University - 1991
NSF/LTER Coordinating Committee Meeting, Rhinelander, WS -1992
Institute for Ecosystem Studies, New York Botanical Garden, Millbrook, NY - 1992
Forest Service University, USDA Forest Service, Milwaukee, WI - 1992
Forest Service University, USDA Forest Service, Chicago, IL-1993

Aspen Global Change Institute, Aspen, CO - 1990, 1991,1993
University of Michigan Biological Station - 1992, 1998, 2007
Annual Meeting of the Ecological Society of America, Climate Change Symposium, 1994
Global Change Program, University of Michigan - 1992, 1996
Seventh Cary Conference, Institute of Ecosystems Studies - 1997
BIOGEOMON, 3rd International Sym. on Ecosystem Behavior, Villanova University- 1997
Global Change and Terrestrial Ecosystems (GCTE) Program, Duke University- 1998
GCTE Program - Climate Change and Litter Decomposition, Capri, Italy - 1998
Plant Biology Council Seminar, University of Guelph - 1999
Ecology Seminar Series, University of Illinois-Chicago, Chicago, IL - 1999
Root Dynamics and Global Change, sponsored by *New Phytologist* and GCTE, Townsend, TN – 1999
Department of Biology Seminar Series, University of Toledo -2001
Program in Ecology Seminar Series, Duke University - 2002
Ecology Seminar Series, University of California, Berkeley – 2002
Depart. Environ., Pop. and Organismal Biology, Univ. of Colorado -- 2004
Carnegie Institution, Stanford University – 2006
Department of Biology, Notre Dame University – 2006
Ecological Society of America Meeting - Invited Symposium – 2007
Soil Science Society of America Meeting – Invited Symposium – 2007
Plant Biology Symposium, Penn State University – 2009
International Soil Organic Matter Dynamics Symposium - 2009