

Colleen M. Iversen · Curriculum Vitae

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Research interests

I am an ecosystem ecologist who uses a variety of field and laboratory techniques to understand and predict how ecosystems are shaped by climatic change. Specifically, I work at the root-soil interface to investigate how atmospheric and climatic change alters belowground carbon and nutrient cycling.

Education

- 2003 – 2008** **Ph.D., University of Tennessee, Knoxville**
Ecology and Evolutionary Biology
Co-advisors: Richard J. Norby and Aimée T. Classen
Dissertation: Forest responses to rising atmospheric CO₂: Causes and consequences of increased fine-root production in a CO₂-enriched sweetgum plantation
- 2001 – 2004** **M.S., University of Notre Dame**
Biological Sciences
Advisor: Scott D. Bridgham
Thesis: Scaling community nitrogen use- and uptake efficiencies in response to increased nutrient availability in peatlands
- 1997 – 2001** **B.S. (*cum laude*), Hope College**
Biological and Environmental Sciences

Research and Professional Experience

- 2016 – Present** **Senior Staff Scientist**
Climate Change Science Institute and
Environmental Sciences Division
Oak Ridge National Laboratory
- 2016 – Present** **Theme lead**
Integrated Ecosystem Sciences Theme
Climate Change Science Institute
Oak Ridge National Laboratory
- 2015 – Present** **Joint Faculty**
Bredesen Center for Interdisciplinary Research and Graduate Education
University of Tennessee, Knoxville
- 2012 – 2016** **Staff Scientist**
Climate Change Science Institute and
Environmental Sciences Division
Oak Ridge National Laboratory
- 2010 – 2012** **Associate Staff Scientist**
Environmental Sciences Division
Oak Ridge National Laboratory
- 2008 – 2010** **Post-doctoral research associate**
Environmental Sciences Division
Oak Ridge National Laboratory

2007 – 2008 **Marvin L. Wesely Graduate Research Environmental Fellow**
Global Change Education Program
Department of Energy

Refereed Publications

2016

Koven C, Kueppers L, **Iversen CM**, Reich P, Thornton PE. 2016. Expanding the use of plant trait observations and ecological theory in Earth system models: DOE Workshop Report. A summary report from the Terrestrial Ecosystem Science (TES) and Earth System Modeling (ESM) Workshop on Trait Methods for Representing Ecosystem Change; Rockville, MD, 18-19 November 2015. Report Date: May 31, 2016. Access on-line at: http://science.energy.gov/~media/ber/pdf/workshop%20reports/Trait_workshop_report_05_31_2016.pdf

Kueppers LM, **Iversen CM**, Koven CD. 2016. Expanding the use of plant trait observations in Earth system models. *Eos* 97, DOI:10.1029/2016EO049947.

Mao J, Ricciuto DM, Thornton PE, Warren JM, King AW, Shi X, **Iversen CM**, Norby RJ. 2016. Evaluating the Community Land Model in a pine stand with ¹³CO₂ labeling and shading manipulations. *Biogeosciences* 13: 641-657.

Schädel C, Bader MKF, Schuur EAG, Bracho R, Capek P, De-Baets S, Diakova K, Ernakovich J, Estop-Aragones C, Graham DE, Hartley IP, Iversen CM, Kane E, Knoblauch C, Lupascu M, Natali S, Norby RJ, O'Donnell JA, Roy Chowdhury T, Šantrůčková H, Shaver G, Sloan VL, Treat CC, Turetsky MR, Waldrop M, Wickland KP. 2016. Potential carbon emissions dominated by carbon dioxide from thawed permafrost soils. *Nature Climate Change*, DOI: 10.1038/nclimate3054.

2015

Heikoop JM, Throckmorton HM, Newman BD, Perkins GB, **Iversen CM**, Roy Chowdhury T, Romanovsky V, Graham DE, Norby RJ, Wilson CJ, and Wullschlegel SD. 2015. Isotopic identification of soil and permafrost nitrate sources in an Arctic tundra ecosystem. *Journal of Geophysical Research – Biogeosciences* 120: 1000-1017.

Hockaday WC, Gallagher ME, Masiello CA, Baldock JA, **Iversen CM**, Norby RJ. 2015. Forest soil carbon oxidation state and oxidative ratio responses to elevated CO₂. *Journal of Geophysical Research: Biogeosciences* 120: 1797-1811.

Iversen CM, Sloan VL, Sullivan PF, Euskirchen ES, McGuire AD, Norby RJ, Walker AP, Warren JM, Wullschlegel SD. 2015. The unseen iceberg: Plant roots in arctic tundra (Tansley Review). *New Phytologist* 205: 34-58.

McCormack ML, Dickie IA, Eissenstat DM, Fahey TJ, Fernandez CW, Guo D, Helmisaari H-S, Hobbie EA, **Iversen CM**, Jackson RB, Leppälammil-Kujansuu J, Norby RJ, Phillips RP, Pregitzer KS, Pritchard SG, Rewald B, Zadworny M. 2015. Redefining fine roots improves understanding of below-ground contributions to terrestrial biosphere processes (Tansley Review). *New Phytologist* 207: 505-518.

Medlyn BE, Zaehle S, De Kauwe MG, Walker AP, Dietze MC, Hanson P, Hickler T, Jain A, Luo Y, Parton W, Prentice IC, Thornton PE, Wang S, Wang Y-P, Weng E, **Iversen CM**, McCarthy H, Warren JM, Oren R, Norby RJ. Using ecosystem experiments to improve vegetation models. *Nature Climate Change* 5: 528-534.

Treat C, Natali S, Ernakovich J, **Iversen CM**, Lupascu M, McGuire AD, Norby RJ, Roy Chowdhury T, Richter A, Šantrůčková H, Schädel C, Schuur EAG, Sloan VL, Turetsky M, Waldrop M. A pan-Arctic synthesis of CH₄ and CO₂ production from anoxic soil incubations. *Global Change Biology* 21: 2787-2803.

Wang D, Janjusic T, **Iversen CM**, Thornton PE, Krassovski M, Wu W, Xu Y. 2015. A scientific function test framework for modular environmental model development: Application to the Community Land Model. 1st IEEE/ACM International Workshop on Software Engineering for High Performance Computing in Science, Florence, Italy, May 2015, pp. 16-23.

Warren, JM, Hanson PJ, **Iversen CM**, Kumar J, Walker AP, Wullschleger SD. 2015. Root structural and functional dynamics in terrestrial biosphere models – Evaluation and recommendations (Tansley Review). *New Phytologist* 205: 59-78.

Wullschleger SD, Breen A, **Iversen CM**, Olson M, Nasholm T, Ganeteg U, Wallenstein M, Weston D. 2015. Genomics in a changing Arctic: Critical questions await the molecular ecologist. *Molecular Ecology* 24: 2301–2309.

2014

De Kauwe MG, Medlyn BE, Zaehle S, Walker AP, Dietze MC, Wang Y-P, Luo Y, Jain AK, El-Masri B, Hickler T, Wårlind D, Weng E, Parton WJ, Thornton PE, Wang S, Prentice IC, Asao S, Smith B, McCarthy HR, **Iversen CM**, Hanson PJ, Warren JM, Oren R, Norby RJ. 2014. Where does the carbon go? A model-data intercomparison of vegetation carbon allocation and turnover processes at two temperate forest free-air CO₂ enrichment sites. *New Phytologist* 203: 883-899.

Iversen CM. 2014. Using root form to improve our understanding of root function. *New Phytologist* 203: 707-709.

Iversen CM, Norby RJ. 2014. Terrestrial plant productivity and carbon allocation in a changing climate. In Freedman B, ed. Handbook of Global Environmental Pollution: Global Environmental Change, New York, NY: Springer, pp. 297-316.

Tfaily MM, Cooper WT, Kostka J, Chanton PR, Schadt CW, Hanson PJ, **Iversen CM**, Chanton JP. 2014. Organic matter transformation in the peat column at Marcell Experimental Forest: Humification and vertical stratification. *Journal of Geophysical Research: Biogeosciences* 119: 661-675.

Walker AP, Hanson PJ, De Kauwe MG, Medlyn BE, Zaehle S, Asao S, Dietze M, Hickler T, Huntingford C, **Iversen CM**, Jain A, Lomas M, Luo YQ, McCarthy H, Parton WJ, Prentice IC, Thornton PE, Wang SS, Wang YP, Warlind D, Weng ES, Warren, JM, Woodward FI, Oren R, Norby RJ. Comprehensive ecosystem model-data synthesis using multiple data sets at two temperate forest free-air CO₂ enrichment experiments: Model performance at ambient CO₂ concentration. *Journal of Geophysical Research-Biogeosciences* 119: 937-964.

Wullschleger SD, Epstein HE, Box EO, Euskirchen ES, Goswami S, **Iversen CM**, Kattge J, Norby RJ, van Bodegom PM, Xu X. 2014. Plant functional types in Earth System Models: Past experiences and future directions for application of dynamic vegetation models in high-latitude ecosystems. *Annals of Botany* 114: 1-16.

Zaehle S, Medlyn BE, De Kauwe NG, Walker AP, Dietze MC, Hickler T, Luo Y, Wang Y-P, El-Masri B, Thornton P, Jain A, Wang S, Warlind D, Weng E, Parton W, **Iversen CM**, Gallet-Budynek A, McCarthy H, Finzi A, Hanson PJ, Prentice IC, Oren R, Norby RJ. 2014. Evaluation of 11 terrestrial carbon–nitrogen cycle models against observations from two temperate Free-Air CO₂ Enrichment studies. *New Phytologist* 202: 803–822.

2013

Lynch DJ, Matamala R, **Iversen CM**, Norby RJ, Gonzalez-Meler MA. 2013. Stored carbon partly fuels fine-root respiration but is not used for production of new fine roots. *New Phytologist* 199: 420-430.

2012

Iversen CM, Keller JK, Garten CT, Norby RJ. 2012. Soil carbon and nitrogen cycling and storage throughout the soil profile in a sweetgum plantation after 11 years of CO₂-enrichment. *Global Change Biology* 18: 1684-1697. (Faculty of 1000 article recommendation, <http://f1000.com/714597877>).

Iversen CM, Murphy MT, Allen MF, Childs J, Eissenstat DM, Lilleskov EA, Sarjala TM, Sloan VL, Sullivan PF. 2012. Advancing the use of minirhizotrons in wetlands. *Plant and Soil* 352: 23-39.

Warren JM, **Iversen CM**, Garten CT, Norby RJ, Childs J, Brice DJ, Evans RM, Gu L, Thornton PE, Weston DJ. 2012. Timing and magnitude of carbon partitioning through a young loblolly pine (*Pinus taeda* L.) stand using ¹³C labeling and shade treatments. *Tree Physiology* 32: 799-813.

McMurtrie RE, **Iversen CM**, Dewar RC, Medlyn BE, Näsholm T, Pepper DA, Norby RJ. 2012. Plant root distributions and nitrogen uptake predicted by a hypothesis of optimal root foraging. *Ecology and Evolution* 2: 1235-1250.

2011

Garten CT, **Iversen CM**, Norby RJ. 2011. Litterfall ¹⁵N abundance indicates declining soil nitrogen availability in a free air CO₂-enrichment experiment. *Ecology* 92: 133-139.

Iversen CM, Hooker TD, Classen AT, Norby RJ. 2011. Net mineralization of N at deeper soil depths as a potential mechanism for sustained forest production under elevated [CO₂]. *Global Change Biology* 17: 1130-1139.

2010

Iversen CM. 2010. Digging deeper: Fine root responses to rising atmospheric CO₂ concentration in forested ecosystems. *New Phytologist* 186: 346-357.

Iversen CM, Bridgham SD, Kellogg LE. 2010. Scaling plant nitrogen-use and uptake efficiencies in response to nutrient addition in peatlands. *Ecology* 91: 693-707.

Iversen CM, O'Brien SL. 2010. Organized Oral Session 3. Missing links in the root-soil organic matter continuum. *Bulletin of the Ecological Society of America* 91: 54-64.

Norby RJ, Warren JM, **Iversen CM**, Medlyn BE, McMurtrie RE. 2010. CO₂ enhancement of forest productivity constrained by limited nitrogen availability. *Proceedings of the National Academy of Sciences, USA* 107: 19368-19373.

2009

Franklin O, McMurtrie RE, **Iversen CM**, Crous KY, Finzi A, Tissue DT, Ellsworth DS, Oren R, Norby RJ. 2009. Forest fine-root production and nitrogen use under elevated CO₂: contrasting responses in evergreen and deciduous trees explained by a common principle. *Global Change Biology* 15: 132-144.

O'Brien SL, **Iversen CM**. 2009. Missing links in the root-soil organic matter continuum. *New Phytologist* 184: 513-516.

2008

Iversen CM, Ledford J, Norby RJ. 2008. CO₂ enrichment increases carbon and nitrogen input from fine roots in a deciduous forest. *New Phytologist*. 179: 837-847.

Iversen CM, Norby RJ. 2008. Nitrogen limitation in a sweetgum plantation: Implications for carbon allocation and storage. *Canadian Journal of Forest Research* 38: 1021-1032.

2005 – 2007

Finzi AC, Norby RJ, Calfapietra C, Gallet-Budynek A, Gielen B, Holmes WE, Hoosbeek MR, **Iversen CM**, Jackson RB, Kubiske MB, Ledford J, Liberloo M, Oren R, Polle A, Pritchard S, Zak DR, Schlesinger WH, Ceulemans R. 2007. Increases in nitrogen uptake rather than nitrogen-use efficiency support higher rates of temperate forest productivity under elevated CO₂. *Proceedings of the National Academy of Sciences, USA* 104: 14014-14019.

Keller JK, Bauers AK, Bridgham SD, Kellogg LE, **Iversen CM**. 2006. Nutrient control of microbial carbon cycling along an ombrotrophic-minerotrophic peatland gradient. *Journal of Geophysical Research* 111: G03006.

Norby RJ, **Iversen CM**. 2006. Nitrogen uptake, distribution, turnover, and efficiency of use in a CO₂-enriched sweetgum forest. *Ecology* 87: 5-14.

Keller JK, Bridgham SD, Chapin CT, **Iversen CM**. 2005. Limited effects of six years of fertilization on carbon mineralization dynamics in a Minnesota fen. *Soil Biology and Biochemistry* 37: 1197-1204.

Published Datasets

2016

Iversen CM, Powell AS, McCormack ML, Blackwood CB, Freschet GT, Kattge J, Roumet C, Stover DB, Soudzilovskaia NA, Valverde-Barrantes OJ, van Bodegom PM, Violle C. 2016. Fine-Root Ecology Database (FRED): A Global Collection of Root Trait Data with Coincident Site, Vegetation, Edaphic, and Climatic Data, Version 1. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. Access on-line at: <http://dx.doi.org/10.3334/CDIAC/ornlsfa.005>.

2015

Iversen CM, Vander Stel HM, Norby RJ, Sloan VL, Childs J, Brice DJ, Keller JK, Jong A, Ladd MP, Wullschlegler SD. 2015. Active Layer Soil Carbon and Nutrient Mineralization, Barrow, Alaska, 2012. Next Generation Ecosystem Experiments Arctic Data Collection, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. Data set accessed at <http://dx.doi.org/10.5440/1185213>.

2014

Iversen CM, Hanson PJ, Brice DJ, Phillips JR, McFarlane KJ, Hobbie EA, Kolka RK. 2014. SPRUCE Peat Physical and Chemical Characteristics from Experimental Plot Cores, 2012. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/CDIAC/spruce.005>.

Iversen CM, Sloan VL, Sullivan PF, Euskirchen ES, McGuire AD, Norby RJ, Walker AP, Warren JM, Wullschlegler SD. 2014. Plant Root Characteristics and Dynamics in Arctic Tundra Ecosystems, 1960 - 2012. Next Generation Ecosystem Experiments Arctic Data Collection, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. Data set accessed at <http://dx.doi.org/10.5440/1114222>.

Sloan VL, Brooks JD, Wood SJ, Liebig JA, Siegrist J, **Iversen CM**, Norby RJ. 2014. Plant community composition and vegetation height, Barrow, Alaska, Ver. 1. Next Generation Ecosystem Experiments Arctic Data Collection, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. Data set accessed at <http://dx.doi.org/10.5440/1129476>.

Sloan VL, Liebig JA, Hahn MS, Curtis JB, Brooks JD, Rogers A, **Iversen CM**, Norby RJ. 2014. Soil temperature, soil moisture and thaw depth, Barrow, Alaska, Ver. 1. Next Generation Ecosystem Experiments Arctic Data Collection, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. Data set accessed at <http://dx.doi.org/10.5440.1121134>.

Sloan VL, **Iversen CM**, Liebig JA, Curtis JB, Hahn MS, Siegrist J, Norby RJ. 2014. Plant Available Nutrients, Barrow, Alaska Ver. 1. Next Generation Ecosystem Experiments Arctic Data Collection, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA. Data set accessed at <http://dx.doi.org/10.5440/1120920>.

External funding

Current

- 2013 – Measuring and modeling fine roots to improve predictive understanding of climate change feedbacks; **US Department of Energy**; PI.
- 2011 – Next-Generation Ecosystem Experiments (NGEE) – Arctic (<http://ngee-arctic.ornl.gov/>); **US Department of Energy**; Co-I.
- 2010 – Spruce and Peatland Responses Under Climatic and Environmental Change (SPRUCE) (<http://mnspruce.ornl.gov/>); **US Department of Energy**; Co-I.

Previous

- 2010 – 2013 Partitioning in Trees and Soils (PiTS): Field research facilities for testing and improving dynamic carbon partitioning representations in global models; **US Department of Energy**; Co-PI.
- 2007 – 2009 Doctoral Dissertation Improvement Grant. Will CO₂ mediated increases in fine-root litter progressively decrease forest N availability by increasing N immobilization in soil organic matter? **National Science Foundation**.
- 2005 – 2008 Graduate Research Environmental Fellowship. Global Change Education Program, **US Department of Energy**.
- 2005 Ehleringer Stable Isotope Ecology course at the University of Utah. Tuition grant from Department of Ecology and Evolutionary Biology, **University of Tennessee**.
- 2004 Summer Research Grant. Department of Ecology and Evolutionary Biology, **University of Tennessee**.

Honors and awards

- 2012 Stanley I. Auerbach Early-Career Award for Excellence in Environmental Sciences. Environmental Sciences Division, Oak Ridge National Laboratory.
- 2010 Finalist in *New Phytologist* Tansley Medal competition for mini-review: Iversen CM (2010), *New Phytologist* 186: 346-357. Highlighted in Woodward

& Hetherington 'The *New Phytologist* Tansley medal', *New Phytologist* 186: 263-264.

- 2009 Distinguished Achievement Award for Post-Graduate Research. Environmental Sciences Division, Oak Ridge National Laboratory.
- 2006 Best student poster presentation in the Soil Ecology Section of the Ecological Society of America annual meeting, Memphis, TN, USA.
- 2006 Travel award from Terrestrial Ecosystem Responses to Atmospheric and Climatic Change network to attend forested FACE synthesis in Antwerp, Belgium.
- 2005 Second best student poster presentation. Soil Ecology Society biennial meeting, Argonne National Laboratory, Argonne, IL, USA.
- 2004 Travel award to attend Terrestrial Ecosystem Responses to Atmospheric and Climatic Change annual meeting, Fort Meyers, FL, USA.
- 2003 – 2004 Travel awards from the Society of Wetland Scientists to attend Society of Wetland Scientists annual meeting, New Orleans, LA, USA (2003) and Association of Southeastern Biologists annual meeting, Memphis, TN, USA (2004).

Service

2014 – Present Editorial Advisory Board

New Phytologist

2015 – 2016 Institutional Review Committee

Laboratory-Directed Research and Development
Oak Ridge National Laboratory

2004 – Present Reviewer

Acta Oecologica; Agriculture, Ecosystems & Environment; Annals of Botany; AoB PLANTS; Biogeosciences; Biology and Fertility of Soils; Biological Invasions; Canadian Journal of Forest Research; Climate Change Responses; Ecology, Ecology Letters; Ecosphere; Global Biogeochemical Cycles; Global Change Biology; Global Ecology and Biogeography; Journal of Ecology; Journal of Geophysical Research – Biogeosciences; Marine Ecology Progress Series; National Geographic Society; Nature; New Phytologist; Oecologia; Plant Physiology; Plant and Soil; Polar Science; Proceedings of the National Academy of Sciences of the United States of America; Soil Biology and Biochemistry; Soil Science Society of America Journal; Tree Physiology; National Science Foundation; National Institute for Climate Change Research; Department of Energy, Office of Science.

Professional activities

Organizing committee: 'DOE workshop on trait methods for representing ecosystem change', held in Rockville, MD, USA in November, 2015, and funded by the Department of Energy, Office of Science.

Co-organizer: 'A path forward for improved representation of fine roots in large-scale models: Linking models, data, and experiments'. Organized Oral Session at the annual Ecological Society of America meeting, August, 2014, in Sacramento, CA, USA (<http://eco.confex.com/eco/2014/webprogram/Session9688.html>).

Organizer: 'Roots in Models' workshop held at Oak Ridge National Laboratory, TN, USA in June, 2014, and funded by the Department of Energy, Office of Science (http://web.ornl.gov/~ciz/Roots_in_Models.html).

Organizing committee: 'Scaling Root Processes: Global Impacts' workshop held in Washington, DC, USA, in March, 2012, and funded by the Department of Energy, Office of Science (<http://www.bio.anl.gov/ScalingRootProcesses-GlobalImpactsWorkshop>).

Organizer: 'Advancing minirhizotron use to examine ephemeral root dynamics in peatland and high carbon ecosystems'. Small workshop hosted at Oak Ridge National Laboratory in October, 2010, and funded by the Department of Energy, Office of Science and New Phytologist Trust.

Co-organizer: 'Missing links in the root-soil organic matter continuum'. Organized Oral Session at the annual Ecological Society of America meeting, August, 2009 in Albuquerque, NM, USA.

Society memberships: American Geophysical Union, Ecological Society of America, Soil Ecology Society.

Invited presentations

2016

Iversen CM *et al.* 2016. Linking Belowground Plant Traits With Ecosystem Processes: A Multi-Biome perspective. *Invited talk* (by graduate students and post-docs in Biogeoscience program), Boston University, Boston, MA, USA.

2015

Iversen CM, McCormack ML, Warren JM, Walker AP, Yang X, Wang D. 2015. A path forward to improve the representation of fine roots in terrestrial biosphere models. *Invited talk*. 'Climate models revisited: the biogeochemical consequences of mycorrhizal dynamics' meeting, KNAW, The Trippenhuis, Amsterdam.

Iversen CM, McCormack ML, Powell AS, Wang D, Xu, Y. 2015. The need for a global root trait database. *Invited lightning talk*. DOE workshop on 'Trait methods for representing ecosystem change'. Rockville, MD, USA.

2014

Iversen CM. 2014. Digging deeper: Improving our understanding of ecosystem responses to climate change through measurements and modeling of belowground processes. *Keynote address*. 'Belowground processes and the RhizoNet integrated network of belowground measurements' workshop at the Chinese Academy of Sciences Institute of Geographic Sciences and Natural Resources Research in Beijing, China.

2013

Iversen CM. 2013. Digging deeper: Improving our understanding of ecosystem responses to climate change through measurements and modeling of belowground processes. *Invited talk*. Virginia Tech, Blacksburg, VA, USA.

Iversen CM. 2013. Improving our understanding of ecosystem responses to climate change through measurements and modeling of belowground processes'. *Invited talk*. Belowground Carbon Cycling Processes at the Molecular Scale workshop, Environmental Molecular Sciences Laboratory at Pacific Northwest National Laboratory, Richland, WA, USA.

Iversen CM, Childs J, Norby RJ, Kolka, RK, Ontl TA. 2013. Advancing the use of minirhizotrons in wetlands. *Invited talk*. Environmental Sensing Technology workshop associated with the Center for Embedded Network Sensors at the University of California, Riverside, CA, USA.

2012

Iversen CM. 2012. Digging deeper: Improving our understanding of ecosystem responses to atmospheric and climatic change through measurements and modeling of belowground processes. *Invited talk*. Biogeochemistry and Environmental Science and Sustainability Fall 2012 Seminar Series, Cornell University, Ithaca, NY, USA.

Iversen CM, Norby RJ. 2012. Digging deeper: Rooting distributions in forested CO₂-enrichment experiments. *Invited talk*. Scaling Root Processes: Global Impacts workshop, Washington, D.C., USA.

2011

Iversen CM, Norby RJ. 2011. The interplay between soil N availability, C partitioning, and ecosystem C storage in a CO₂-enriched sweetgum plantation. *Invited talk*. The 27th *New Phytologist* Symposium: Stoichiometric flexibility in terrestrial ecosystems under global change. Biosphere 2, Oracle, AZ, USA

Iversen CM. 2011. At the root of the response: Carbon and nitrogen cycling in a CO₂-enriched deciduous forest. *Invited talk*. Oak Ridge Institute for Continued Learning, Philosophical Society, Oak Ridge, TN, USA.

2010

Iversen CM. 2010. At the root of the response: Carbon and nitrogen cycling in a CO₂-enriched deciduous forest. *Invited talk*. Biology Department, Hope College, Holland, MI, USA.

2009

Iversen CM. 2009. The causes and consequences of increased fine-root production in a CO₂-enriched sweetgum plantation. *Invited talk*. Biosciences Division Seminar, Argonne National Laboratory, Argonne, IL, USA.

Iversen CM. 2009. The causes and consequences of increased fine-root production in a CO₂-enriched sweetgum plantation. *Invited talk*. Department of Biological Sciences Seminar, University of Illinois at Chicago, Chicago, IL, USA.

2008

Iversen CM. 2008. The causes and consequences of increased fine-root production in a CO₂-enriched sweetgum plantation. *Keynote address*. High CO₂Workshop, University of Western Sydney, New South Wales, Australia.

2006

Iversen CM. 2006. At the root of the response: Carbon and nitrogen cycling in a CO₂-enriched deciduous forest. *Invited talk*. Smithsonian Environmental Research Center, Edgewater, MD, USA.

Iversen CM. 2006. Plant nitrogen use from fens to forests: Consequences for carbon storage. *Invited talk*. Oak Ridge National Laboratory weekly "Fishheads" meeting, Oak Ridge, TN, USA.

Updated on 19 July 2016.