

Jeffrey M. Warren

Research Scientist

Oak Ridge National Laboratory, Environmental Sciences Division

Phone: (865) 241-3150

E-mail: warrenjm@ornl.gov

Education and Training

- 2002 Washington State University, Tree Physiology, Ph.D.
1996 North Carolina State University, Forest Science, M.S.
1991 Miami University, Engineering Physics, B.S.

Research and Professional Experience

- 2010- Staff Scientist, Oak Ridge National Laboratory, Oak Ridge TN
2010- Adjunct Assistant Professor, Forestry, Wildlife and Fisheries, UT-Knoxville.
2007-2009 Research Associate, Oak Ridge National Laboratory, Oak Ridge TN
2002-2007 Research Forester, USDA Forest Service PNW Research Station, Corvallis OR
1999-2002 Graduate Fellow, US EPA Science to Achieve Results Program, Pullman WA

Publications

1. Warren, JM, AM Jensen, BE Medlyn, RJ Norby, DT Tissue. 2014. CO₂ stimulation of photosynthesis in *Liquidambar styraciflua* is not sustained during a 12-year field experiment. *AoB Plants* doi:10.1093/aobpla/plu074
2. Warren, JM, PJ Hanson, CM Iversen, J Kumar, AP Walker, SD Wullschleger. 2014. Incorporation of root structure and function in models –evaluation and recommendations. *New Phytologist* 205:59-78.
3. Warren, JM, H Bilheux, M Kang, S Voisin, C Cheng, J Horita, E Perfect. 2013. Neutron imaging reveals internal plant water dynamics. *Plant and Soil* 366:683-693.
4. Weston, DJ, CM Timm, AP Walker, L Gu, W Muchero, J Schmutz, JA Shaw, GA Tuskan, JM Warren, SD Wullschleger D 2014. *Sphagnum* physiology in the context of changing climate: Emergent influences of genomics, modeling and host-microbiome interactions on understanding ecosystem function. *Plant Cell and Environment* doi: 10.1111/pce.12458.
5. De Kauwe, MG, BE Medlyn, S Zaehle, AP Walker, MC Dietze, T Hickler, AK Jain, Y Luo, WJ Parton, C Prentice, B Smith, PE Thornton, S Wang, Y-P Wang, D Wårlind, ES Weng, KY Crous, DS Ellsworth, PJ Hanson, H Seok-Kim, JM Warren, R Oren, RJ Norby. 2013. Forest water use and water use efficiency at elevated CO₂: a model-data intercomparison at two contrasting temperate forest FACE sites. *Global Change Biology* 19:1759-79.
6. Warren, JM, CM Iversen, CT Garten Jr., RJ Norby, J. Childs, D. Brice, RM Evans, L. Gu, P. Thornton, DJ Weston. 2012. Timing and magnitude of C partitioning through a young loblolly pine (*Pinus taeda* L.) stand using ¹³C labeling and shade treatments. *Tree Physiology* 32:799-813.
7. Warren, JM, RJ Norby, SD Wullschleger. 2011. Elevated CO₂ enhances premature leaf senescence during extreme climatic events in a temperate forest. *Tree Physiology* 31:117-130.
8. Warren, JM, E Pötzelsberger, SD Wullschleger, PE Thornton, H Hasenauer, RJ Norby. 2011. Ecohydrologic impact of reduced stomatal conductance in forests exposed to elevated CO₂. *Ecohydrology* 4:196-210.
9. Warren, JM, JR Brooks, MI Dragila, FC Meinzer. 2011. In situ separation of root hydraulic redistribution of soil water from liquid and vapor transport. *Oecologia* 166:899–911.
10. Warren, JM, JR Brooks, FC Meinzer, JL Eberhart. 2008. Hydraulic redistribution of water from *Pinus ponderosa* trees to seedlings via ectomycorrhizal fungi. *New Phytologist* 178: 382–394.
11. Warren, JM, FC Meinzer, JR Brooks and J-C Domec. 2005. Vertical stratification of soil water storage and release dynamics in Pacific Northwest coniferous forests. *Agricultural and Forest Meteorology* 130:39-58.

12. Meinzer FC, BJ Bond, JM Warren and DR Woodruff. 2005. Does water transport scale universally with tree size? *Functional Ecology* 19:558-565.
13. Drobot, S, D Porinchu, K Arzayus, V Barber, L Delissio, L M Smith and JM Warren. 2003. The 'ideal' climate change Ph.D. program. DISCCRS I. Dissertations initiative for the advancement of climate change research working group. <http://www.disccrs.org/reports/disccrsclimatechange.pdf>
14. Warren, JM, JH Bassman and S Eigenbrode. 2002. Leaf chemical changes induced in *Populus trichocarpa* Torr. & Gray by enhanced UV-B radiation and concomitant effects on herbivory by *Chrysomela scripta* Fab. (Coleoptera: Chrysomelidae). *Tree Physiology* 22: 1137-1146.

Synergistic Activities

1. Member – AGU, ESA, Instrument Development Team of ORNL SNS VENUS beam line.
2. Reviewer – *Acta Physiologiae Plantarum*, *ANR (France)*, *DOE*, *Ecohydrology*, *Ecological Applications*, *Forest Ecology & Management*, *Forest Science*, *Frontiers in Plant Biophysics & Modeling (Editorial Board)*, *Frontiers in Zoology*, *Fungal Ecology*, *Global Change Biology*, *Isotopes in Environmental & Health Studies*, *J. Arid Environments*, *J. Applied Ecology*, *J. Environmental Quality*, *Mycorrhiza*, *Neutron Imaging & Applications (book)*, *New Phytologist*, *Northwest Science*, *Oecologia*, *Neutron Scattering Science Program (ORNL)*, *Plant and Soil*, *Sensors*, *Tree Physiology*, *Water Resources Research*.
3. Lectures – University of Tennessee - Knoxville, Alabama A&M University, Oregon State University, University of Saskatchewan.

Collaborators and Co-editors (last 48 months)

Hassina Bilheux (ORNL), Renee Brooks (EPA), Chu-Lin Cheng (UT-K), Joanne Childs (ORNL), Kenneth Childs (ORNL), JC Domec (Duke), Maria Dragila (OSU), Joyce Eberhart (OSU), Richard Evans (UT-K), Charles Garten, Jr. (ORNL), Carla Gunderson (ORNL), Jennifer Franklin (UT-K), Lianhong Gu (ORNL), Paul Hanson (ORNL), Hubert Hasenauer (BOKU), Juske Horita (TexasT), Colleen Iversen (ORNL), Anna Jensen (ORNL), Nicole Labbe (UT-K), Barb Lachenbruch (OSU), Kate McCulloh (OSU), Ross McMurtrie (Univ New South Wales), Belinda Medlyn (Macquarie Univ), Rick Meinzer (USFS), Rich Norby (ORNL), Ed Perfect (UT-K), Elisabeth Pötzelsberger (BOKU), Jeffery Riggs (ORNL), Warren Thomas (ORNL), Peter Thornton (ORNL), David Tissue (UWS), Donald Todd (ORNL), David Weston (ORNL), David Woodruff (USFS), Stan Wullschleger (ORNL)

Graduate and Postdoctoral Advisors

Post-doctoral Advisors: Renee Brooks (EPA), Rick Meinzer (USFS), Rich Norby (ORNL), Stan Wullschleger (ORNL)

Graduate Advisors: H. Lee Allen (NCSU), John Bassman (WSU), Gerry Edwards (WSU), John Fellman (WSU), Ron Robberecht (U-Idaho)

Recent Presentations

1. Warren, JM, CM Iversen, RJ Norby, J Labbe, J Mao, JAM Moore, DM Ricciuto, PE Thornton. 2014. “¹³C pulse labeling to assess C partitioning in dogwood – from foliage to fungi.” Annual meeting of the Ecological Society of America, Sacramento, CA.
2. Warren, JM. 2014. “Assessment of root water dynamics in situ and leveraging mechanistic knowledge of root function into terrestrial biosphere models.” Rhizosphere Imaging & Genomics Seminar Series, Department of Soil Science, University of Saskatchewan, Saskatoon, SK.
3. Warren, JM, J Childs, P Hanson, A Jensen, S Wullschleger. 2013. “Sap flow and water relations in an ombrotrophic *Picea mariana* – *Sphagnum* bog subject to climate change treatments.” 9th International Workshop on Sap flow, Ghent, Belgium.

4. Warren, JM, H Bilheux, M Kang, S Voisin, C-L Cheng, J Horita, E Perfect. 2013. "Roots revealed – neutron imaging insight of spatial distribution, morphology, growth and function." Meeting of the Americas (AGU), Cancun, Mexico.