

Timothy M. Wertin – Curriculum vitae

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Education:

Ph.D., University of Georgia, Department of Forestry and Natural Resources, 2010
M.S., University of Wisconsin, Department of Forest Ecology, 2005
B.S., University of Missouri, Department of Biochemistry, 2001

Employment:

2012 – *Present* Postdoctoral Ecologist, Institute for Genomic Biology, University of Illinois, IL
2010 – 2012 Postdoctoral Ecologist, U.S. Geological Survey, Canyonlands Research Station, Moab, UT
2006 – 2010 Graduate Student, Department of Forestry and Natural Resources, University of Georgia
2005 – 2006 Research Assistant, Department of Forest Ecology, University of Wisconsin, WI
2004 – 2005 Graduate Student, Department of Forest Ecology, University of Wisconsin, WI
2003 – 2004 Research Assistant, Department of Forest Ecology, University of Wisconsin, WI
2002 – 2003 Graduate Student, Department of Biochemistry, University of Wisconsin, WI
2001 – 2002 Americorps NCCC

Memberships, Awards and Honors, Volunteering

2011 - AGU Member
2007 - ESA Member
2008 - ESA Physiologic Ecology Section Member
2005 - Xi Sigma Pi Member
1997 Eagle Scout

Publications:

Wertin, TM, SC Reed, J Belnap. 2014. Varied consequences of elevated temperature and altered precipitation among C₃ grasses, C₄ grasses and shrubs in a dryland community on the Colorado Plateau, USA. *Submitted to Global Change Biology*.

Wang, D, D Jaiswal, D LeBauer, TM Wertin ADB Leakey, S Long. 2014. A physiological and biophysical model of coppice willow (*Salix* spp.) production and predicted yields for the contiguous USA in current and future climate scenarios. *Accepted at Plant, Cell and Environment*.

Teskey, RO, TM Wertin, I Bauweraerts, M Ameye, MA McGuire, K Steppe, 2014. Responses of tree species to heat waves and extreme heat events review. *In review at PCE*.

Bauweraerts I, T Maennerts, TM Wertin, MA McGuire, K Steppe, RO Teskey. 2014. Effects of local versus latitudinal increases in growth temperature and elevated [CO₂] on photosynthetic thermotolerance of *Pinus taeda*. *In review at Trees-Structure and Function*.

Wertin, TM, SC Reed, J Belnap. 2014. An increase in temperature reduces carbon assimilation and growth of *Achantherum hymenoides* bunchgrass. *In preparation for Plant, Cell and Environment*.

Wolz, KJ, ADB Leakey, TM Wertin, M Abordo, D Wang. 2014. Species-specific parameterization of a widely used stomatal conductance model improves accuracy of predicted carbon and water fluxes in temperature trees. *In preparation for New Phytology*.

Cerasoli, S, TM Wertin, MA McGuire, A Rodrigues, DP Aubrey, JS Pereira, RO Teskey. 2014. Poplar saplings exposed to recurring temperature shifts of different amplitude exhibit differences in leaf gas exchange and growth despite equal mean temperature. *In press: AOB Plants* (doi: 10.1093/aobpla/plu018)

Bauweraerts I, M Ameye, TM Wertin, MA McGuire, RO Teskey, K Steppe. 2014. Water availability is the decisive factor for the growth of two tree species in the occurrence of consecutive heat waves. *Agricultural and Forest Meteorology*. 189-190, p. 19-29.

Zelikova TJ, RA Hufbauer, SC Reed, TM Wertin, C Fettig, J Belnap. 2013 Eco-evolutionary responses of *Bromus tectorum* to climate change: implications for biological invasions. *Ecology and Evolution*, 3: 1374-1387.

Bauweraertz, I, TM Wertin, M Ameye, MA McGuire, RO Teskey, K Steppe. 2013. The effects of heat waves, elevated [CO₂] and low soil water availability on northern red oak (*Quercus rubra* L.) seedlings. *Global Change Biology*, 19, 517-528.

Wertin, TM, SL Phillips, SC Reed, J Belnap. 2012. Elevated [CO₂] did not mitigate the effect of a short-term drought on biological soil crusts. *Biology and Fertility of Soils*, 48: 797-805

Ameys, M, TM Wertin, I Bauweraerts, MA McGuire, RO Teskey, K Steppe. 2012. The effect of an induced heat wave on *Pinus taeda* and *Quercus rubra* in ambient and elevated CO₂ atmosphere. *New Phytologist*, 196, 448-461.

Wertin, TM, MA McGuire, RO Teskey. 2012. Effects of predicted and current atmospheric temperature and [CO₂] and high and low soil moisture on gas exchange and growth of *Pinus taeda* seedlings at cool and warm sites in the species range. *Tree Physiology*, 32: 847-858.

Wertin, TM, MA McGuire, M van Iersel, J Ruter, RO Teskey. 2012. Effects of elevated temperature and [CO₂] on photosynthesis, leaf respiration and biomass accumulation of *Pinus taeda* seedlings at cool and warm sites within the species' current range. *Canadian Journal of Forest Research*, 42: 943-957.

Wertin, TM, MA McGuire, RO Teskey. 2011. Higher growth temperatures decreased net carbon assimilation and biomass accumulation of northern red oak seedlings near the southern limit of the species range. *Tree Physiology* 31: 1277-1288.

Wertin, TM, MA McGuire, RO Teskey. 2010. The influence of elevated temperature, elevated atmospheric CO₂ concentration, and water stress on net photosynthesis in *Pinus taeda* (loblolly pine) throughout its native range. *Global Change Biology* 16:2089-2103.

Wertin, TM, RO Teskey. 2008. Close coupling of whole-plant respiration to net photosynthesis and carbohydrates. *Tree Physiology* 28:1831-1840.

Hoyos, ME, L Palmieri, TM Wertin, R Arrigoni, JC Polacco, F Palmieri. 2003. Identification of a mitochondrial transporter for basic amino acids in *Arabidopsis thaliana* by functional reconstitution into liposomes and complementation in yeast. *Plant Journal* 33 (6): 1027-1035, 2003.

Presentations:

Wertin TM, K Wolz, M Abordo, ADB Leakey. Replacing generic parameterizations of stomatal function in temperature trees with species-specific functions allows modeling to resolve interspecific variation in carbon and water flux. The 16th Annual International Congress on Photosynthesis. American Geophysical Union Annual Meeting. San Francisco, CA. December 9-13. –*poster presentation*.

Wertin TM, K Wolz, M Abordo, ADB Leakey. Replacing generic parameterizations of stomatal function in temperature trees with species-specific functions allows modeling to resolve interspecific variation in carbon and water flux. The 16th Annual International Congress on Photosynthesis. St. Louis, MO. August 11-16, 2013.

Reed SC, RA Fisher, KK Coe, TM Wertin, JP Sparks, J Belnap. Climate change effects on biological soil crusts: What should we expect for future biocrust structure and function? The Ecological Society of America 98th Annual Meeting. Minneapolis, MN. August 3-9, 2012.

Teskey RO, I Bauweraerts, M Ameye, TM Wertin, MA McGuire, K Steppe. Effects of repeated heat waves, elevated [CO₂] and low water availability on growth of *Quercus rubra* and *Pinus taeda* seedlings. The Ecological Society of America 98th Annual Meeting. Minneapolis, MN. August 3-9, 2012.

Wertin TM, SC Reed, J Belnap. Increased temperature negatively affects carbon assimilation and growth of *Achantherum hymenoides* bunchgrass. The Ecological Society of America 97th Annual Meeting. Portland, OR. August 4-10, 2012.

Teskey RO, I Bauweraerts, TM Wertin, M Ameye, MA McGuire, K Steppe. Impact of heatwaves, drought stress and elevated CO₂ on northern red oak seedlings. The Ecological Society of America 97th Annual Meeting. Portland, OR. August 4-10, 2012.

Wertin TM, SC Reed, J Belnap. The effects of increased temperature and altered precipitation on plants in an arid ecosystem. The American Geophysical Union Fall Meeting. San Francisco, CA. December 5-9, 2011

Wertin TM, J Belnap, S Phillips, SC Reed. The potential effects of global change on biological soil crusts. The Ecological Society of America 96th Annual Meeting. Austin, TX. August 7-12, 2011.

Wertin, TM, MA McGuire, RO Teskey. The effect of an increase in air temperature and [CO₂] on tree seedling biomass accumulation. . The Ecological Society of America 95th Annual Meeting. Pittsburgh, PA. August 2-7, 2010.

McGuire, MA, TM Wertin, RO Teskey. Response of biomass accumulation of two hardwood tree species to elevated atmospheric [CO₂] and air temperature at two sites in Georgia, USA. The Ecological Society of America 95th Annual Meeting. Pittsburgh, PA. August 2-7, 2010.

Cerasoli, S, TM Wertin, MA McGuire, DP Aubrey, RO Teskey. The effects of short term temperature fluctuations on carbon balance and growth in poplar saplings. The Ecological Society of America 94th Annual Meeting. Albuquerque, NM. August 2-7, 2009.

Wertin, TM, MA McGuire, RO Teskey. The influence of elevated temperature, elevated atmospheric CO₂ concentration, and water stress on net photosynthesis in loblolly pine (*Pinus taeda*) throughout its native range. The Ecological Society of America 94th Annual Meeting. Albuquerque, NM. August 2-7, 2009.

Wertin, TM, RO Teskey. Close coupling of photosynthesis, carbohydrate content, and whole plant respiration. The Ecological Society of America 93rd Annual Meeting. Milwaukee, WI. August 3-8, 2008

Hoyos, ME, TM Wertin, L Palmieri, J Polacco. Identification and Characterization of Plant Mitochondrial Arginine Transporters. 12th International Plant Membrane Biology Workshop. Madison, WI. August 11-16, 2001.