

TYSON E. OCHSNER

Associate Professor, Soil Physics

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(A) PROFESSIONAL PREPARATION

Oklahoma State University	Environmental Science	B.S.	1998
Iowa State University	Soil Science and Water Resources	M.S.	2000
Iowa State University	Soil Science and Water Resources	Ph.D.	2003

(B) APPOINTMENTS

2013 – present	Associate Professor, Soil Physics, Plant and Soil Sciences, Oklahoma State University, Stillwater, OK
2008 – 2013	Assistant Professor, Soil Physics, Plant and Soil Sciences, Oklahoma State University, Stillwater, OK
2003 – 2008	Soil Scientist, Soil and Water Management Research Unit, Agricultural Research Service, St. Paul, MN

(C) PUBLICATIONS

i. Five Most Relevant Publications

- Torres, G.M., R.P. Lollato and **T.E. Ochsner**. 2013. Comparison of Drought Probability Assessments Based on Atmospheric Water Deficit and Soil Water Deficit. *Agron. J.* 105: 428-436. doi:10.2134/agronj2012.0295.
- Wine, M.L., **T.E. Ochsner**, A. Sutradhar and R. Pepin. 2012. Effects of eastern redcedar encroachment on soil hydraulic properties along Oklahoma's grassland-forest ecotone. *Hydrological Processes* 26: 1720-1728. doi:10.1002/hyp.8306.
- Patrignani, A., C.B. Godsey, **T.E. Ochsner**, and J.T. Edwards. 2012. Soil Water Dynamics of Conventional and No-Till Wheat in the Southern Great Plains. *Soil Sci. Soc. Am. J.* 76: 1768-1775. doi:10.2136/sssaj2012.0082.
- Krueger, E.S., **T.E. Ochsner**, P.M. Porter, and J.M. Baker. 2011. Winter rye cover crop management influences on soil water, soil nitrate, and corn development. *Agron. J.* 103:316-323.
- Ochsner, T.E.**, K.A. Albrecht, T.W. Schumacher, J.M. Baker, and R.J. Berkevich. 2010. Water balance and nitrate leaching under corn in kura clover living mulch. *Agron. J.* 102:1169-1178.

ii. Five Other Significant Publications (35 total peer-reviewed papers, 2 book chapters):

- Baker, J.M., T.J. Griffis and **T.E. Ochsner**. 2012. Coupling landscape water storage and supplemental irrigation to increase productivity and improve environmental stewardship in the U.S. Midwest. *Water Resour. Res.* 48: W05301. doi:10.1029/2011wr011780.
- Baker, J.M., **T.E. Ochsner**, R.T. Venterea, and T.J. Griffis. 2007. Tillage and carbon sequestration--what do we really know? *Agriculture, Ecosystems, and Environment* 118:1-5.
- Ochsner, T.E.**, T.J. Sauer, and R. Horton. 2007. Soil heat storage measurements in energy balance studies. *Agron. J.* 99:311-319.
- Ochsner, T.E.**, T.J. Sauer, and R. Horton. 2006. Field tests of the soil heat flux plate method and some alternatives. *Agron. J.* 98:1005-1014.
- Ochsner, T.E.**, R. Horton, and T. Ren. 2001. A new perspective on soil thermal properties. *Soil Sci. Soc. Am. J.* 65:1641-1647.

(D) SYNERGISTIC ACTIVITIES

1. Dr. Ochsner is recognized as an outstanding and innovative teacher at the undergraduate and graduate levels. In his undergraduate course titled "Soil, Water, and Weather", he employs an innovative combination of the "think, pair, share" teaching method with a text-message based live polling system. He also effectively engages the students in a real research project using Mesonet data each year. In Dr. Ochsner's graduate course titled "Soil Physics Practicum", the students take part in a novel internal grant competition with the winning team leading the class in a real research project of their design with real funding and products.
2. Dr. Ochsner has a proven record of broadening participation in scientific research by "pipelining" talented and motivated undergraduate women into the role of undergraduate research assistant and then on into graduate studies with two such women successfully mentored in the last two years. Dr. Ochsner also broadens participation by recruiting summer research interns from non-PhD granting institutions, in particular Northwest Missouri State University.
3. Dr. Ochsner is actively involved in serving the scientific community through the peer-review process. He serves as an Associate Editor for the Soil Science Society of America Journal (2009-present) and guides manuscripts through the review process by selecting referees, synthesizing and relaying review comments, overseeing revisions, and making final decisions to accept. Dr. Ochsner also provides peer reviews of research manuscripts for a wide range of science journals. He earned the Editor's Citation for Excellence in Manuscript Review from SSSAJ in 2007.
4. Dr. Ochsner serves as a leader within the international soil physics community. He served on the selection committee for the discipline's highest award, the Don and Betty Kirkham award (2006-2007). He has served as moderator for oral presentation sessions at state and national meetings. He participates in two multi-state soil physics research projects: W-2188 "Characterizing Mass and Energy Transport at Different Vadose Zone Scales" (2004-present, past project president) and S-1048 "Assessment of the Carbon Sequestration Potential of Common Agricultural Systems on Benchmark Soils Across the Southern Region Climate Gradient" (2009-present, past project president). His contributions are widely recognized and he received the Soil Science Society of America S-1 Division (Soil Physics) Early Career Award in 2009.
5. Dr. Ochsner serves the hydrologic science community by acting as the local host and co-PI (with Cosh as PI) for the Marena, OK In Situ Sensor Testbed (MOISST). Last year alone >30 researchers came to work at the testbed including the COSMOS group led by Marek Zreda (Univ. of Arizona), the distributed temperature sensing group led by John Selker (Oregon State University), and the GPS soil moisture group led by Kristine Larson (Univ. of Colorado).

(E) COLLABORATORS AND OTHER AFFILIATIONS

Collaborators and co-editors: K. Albrecht (UW); D. Archer (USDA-ARS); F. Arriaga (USDA-ARS); J. Baker (USDA-ARS); N. Barbour (USDA-ARS); R. Berkevich (UW); M. Dolan (USDA-ARS); R. Ewing (ISU); A. Gaur (World Bank); T. Griffis (UM); A. Halvorson (USDA-ARS); J. Heitman (NCSU); R. Horton (ISU); D. Jaynes (USDA-ARS); J. Johnson (USDA-ARS); M. Kantar (UM); D. Karlen (USDA-ARS); G. Kluitenberg (KSU); W. Koskinen ((USDA-ARS); E. Krueger (UM); D. Laird (ISU); D. Lightle (NRCS); J. Novak (USDA-ARS); O. Olmanson (SMSC); P. Porter (UM); T. Ren (CAU); T. Sauer (USDA-ARS); T. Schumacher (USDA-ARS); C. Sheaffer (UM); R. Venterea (USDA-ARS); J. Warren (OSU); S. Weyers (USDA-ARS); M. Wine (NM Tech)

Graduate advisors: R. Horton (ISU); T. Sauer (USDA-ARS); D. Jaynes (USDA-ARS)

Thesis advisees (8 total): N. Bilga (OSU); G. Dong (OSU); E. Krueger (UM); O. Olmanson (UM); A. Patrignani (OSU); B. Scott (OSU); S. Sharma (OSU); Y. Yimam (OSU)