

Judith K. Turk PhD – Curriculum Vitae

Conservation and Survey Division
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EDUCATION

- Ph.D., Soil and Water Sciences, University of California, Riverside, CA, Mar. 2012
Dissertation: Vesicular Horizon Distribution, Properties, and Pedogenic Processes in Deserts of the Western United States
- M.S., Soil and Water Sciences, University of California, Riverside, CA, June 2007
Thesis: Soil Development in a Forested Debris Flow Chronosequence in Southern California
- B.S., Biology, University of Maryland, College Park, MD, May 2004, *cum laude*

ACADEMIC APPOINTMENTS

- Pedologist/Assistant Professor, Conservation and Survey Division, School of Natural Resources, University of Nebraska, Lincoln, Jul. 2017-Present.
- Assistant Professor of Environmental Science/Soil Science, School of Natural Sciences and Mathematics, Stockton University, Sept. 2012-Jun. 2017.
- Post Doctoral Fellow, Division of Plant and Soil Sciences, National Geospatial Development Center (NGDC), Davis College of Agriculture, Natural Resources and Design, West Virginia University, Morgantown, WV, Apr.-Jul. 2012.

PUBLICATIONS

Peer Reviewed Journal Articles

- **Turk, J. K.** 2016. The Development and Evaluation of Lecture Tutorials for Introductory Soil Science. *Natural Sciences Education* 45. doi:10.4195/nse2016.0002
- **Turk, J.K.**, and R.C. Graham. 2014. Analysis of vesicular porosity in soils using high-resolution X-ray computed tomography. *Soil Science Society of America Journal* 78: 868-880.
- **Turk, J.K.**, and R.C. Graham. 2011. Distribution and properties of vesicular horizons in the western United States. *Soil Science Society of America Journal* 75: 1436-1448.
- **Turk, J.K.**, and R.C. Graham. 2009. Soil carbon and nitrogen accumulation in a forested debris flow chronosequence, California. *Soil Science Society of America Journal* 73:1504-1509.
- **Turk, J.K.**, B.R. Goforth, R.C. Graham, and K.J. Kendrick. 2008. Soil morphology of a debris flow chronosequence in a coniferous forest, southern California, USA. *Geoderma* 146:157-165.

Book Chapters

- **Turk, J.K.**, O.A. Chadwick, and R.C. Graham. 2011. Pedogenic Processes. *In* P.M. Huang et al. (eds.) Handbook of Soil Science. CRC Press, Boca Raton, FL.

Articles by Undergraduate Research Students Advisees

- Lindsay, A. 2017. Organic Carbon Analysis of Charcoal-Enriched Soils at Catoctin Mountain Park, MD. *Natural Sciences Education* 46. doi:10.4195/nse2017.01.0101
- Hesson, K. 2016. Charcoal Hearth Soils: Remnants of the Iron Industry in the Northeastern U. S.. *Natural Sciences Education* 45. doi:10.4195/nse2016.02.0771

PRESENTATIONS (*Presenting Author)

Invited Research Presentations

- **Turk, J.K.** Soil Science at Stockton University. NJ-NYC Soil Science Workshop. Rutgers Cook Campus, New Brunswick, NJ. 9 Jun. 2016.
- **Turk, J.K.*** Soil response to charcoal burning: Soil health and carbon sequestration in charcoal hearths associated with the 18th-19th century iron industry. Mid-Atlantic Association of Professional Soil Scientists Field Day. Cunningham Falls State Park, Thurmont, MD. 13 Nov. 2015.
- **Turk, J.K.*** Bubbles in the Dust: The Vesicular Horizon of Desert Soils. Environmental Science Department Seminar. Rutgers University, New Brunswick, NJ. 9 May 2014.
- **Turk, J.K.*** The vesicular soil horizon: A critical component of arid ecosystems. National Soil Survey Center Webinar. Online. 19 Dec. 2012.
- **Turk, J.K.*** The fragile skin of desert soils: Vesicular horizon formation, distribution, and hydrologic function in arid lands. Soil Science Department Seminar. University of Wisconsin, Madison, WI. 14 Sept. 2011.
- **Turk, J.K.***, and R.C. Graham. Vesicular horizons of the western United States: Hydropedology and recovery from disturbance. National Cooperative Soil Science Conference, Asheville, NC. 22-26 May 2011.
- **Turk, J.K.***, C.A. Houdeshell, and R.C. Graham. A proposed master V horizon for near surface horizons with vesicular porosity. WRCSS Conference in conjunction with the WSSS and WSCS, Las Vegas, NV. 21-24 June 2010.
- **Turk, J.K.***, and R.C. Graham. Processes of vesicular horizon formation. Mojave National Preserve Soils Scoping Session, Barstow, CA. 16-17 June 2009.
- **Turk, J.K.***, and R.C. Graham. Distribution and properties of vesicular horizons in the western United States. NRCS Field Office, Victorville, CA. 10 Feb. 2009.

Volunteered Research Presentations

- Lindsay, A.* and **J.K. Turk**. Organic Carbon and Cation Exchange Capacity of Charcoal-Enriched Soils at Catoctin Mountain Park, MD. ASA-CSSA-SSSA International Annual Meeting, Phoenix, AZ. 6-9 Nov. 2016.
- Lugg, C.* and **J.K. Turk**. Effects of Historic Addition of Charcoal on Soil Respiration in Catoctin Mountain Park, MD. ASA-CSSA-SSSA International Annual Meeting, Phoenix, AZ. 6-9 Nov. 2016.
- Moore, B.*, **J.K. Turk**, and R.C. Graham. Plasticity index of vesicular horizons. ASA-CSSA-SSSA International Annual Meeting, Phoenix, AZ. 6-9 Nov. 2016.
- Witt, E.*, C. Tredick, and **J.K. Turk**. Improving faculty effectiveness in undergraduate research: Lessons from the Stockton University Undergraduate Research Teaching

Circle. Biennial Conference on University Education in Natural Resources, Stevens Point, WI. 25-27 Feb. 2016.

- **Turk, J.K.*** Applying lecture tutorials in the introductory soil science classroom. ASA-CSSA-SSSA International Annual Meeting, Minneapolis, MN. 15-18 Nov. 2015.
- Hesson, K.* (undergraduate advisee) Charcoal Amendments: An analysis of soils from historic charcoaling sites. ASA-CSSA-SSSA International Annual Meeting, Minneapolis, MN. 15-18 Nov. 2015.
- **Turk, J.K.*** and R.C. Graham. The distribution and properties of V horizons. National Cooperative Soil Survey Conference. Duluth, MN. 7-11 Jun. 2015.
- **Turk, J.K.***, C.A. Houdeshell, R.C. Graham. The master V horizon for soil horizons dominated by vesicular porosity. ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA. 2-5 Nov. 2014.
- Kiska, R.* (undergraduate advisee) and **Turk, J.K.** The impact of historical charcoal burning on soil properties. ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA. 2-5 Nov. 2014.
- Pelton, G.E.*, B.D. Lee, **J.K. Turk**, and R.C. Graham. Pore space and concretion distribution In a prairie mound fragipan. ASA-CSSA-SSSA International Annual Meeting, Tampa, FL. 3-6 Nov. 2013.
- **Turk, J.K.*** Some simple hands-on activities for teaching key concepts in soil science. ASA-CSSA-SSSA International Annual Meeting, Tampa, FL. 3-6 Nov. 2013.
- **Turk, J.K.*** and J.A. Thompson. Digital mapping of soil organic carbon in the northeastern United States using legacy datasets. National Cooperative Soil Survey Conference, Annapolis, MD. 16-20 Jun. 2013.
- **Turk, J.K.*** and R.C. Graham. Examination of vesicular porosity in desert soils using X-ray computed tomography. ASA-CSSA-SSSA International Annual Meeting, Cincinnati, OH. 21-24 Oct. 2012.
- **Turk, J.K.***, and R.C. Graham. Hydropedology of vesicular horizons: response to changes in structure and porosity. ASA-CSSA-SSSA International Annual Meeting, San Antonio, TX. 16-19 Oct. 2011.
- **Turk, J.K.***, and R.C. Graham. Variation in vesicular horizon expression by desert ecoregion in the western United States. ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA. 31 Oct.-4 Nov. 2010.
- Quideau, S.A.*, R.C. Graham, **J.K. Turk**, B.R. Goforth, and K.J. Kendrick. 2009. Microbial diversity along a debris flow chronosequence. ASA-CSSA-SSSA International Annual Meeting, Pittsburgh, PA. 1-4 Nov. 2009.
- **Turk, J.K.***, and R.C. Graham. Vesicular pore formation: the effect of microbes and soil temperature. ASA-CSSA-SSSA International Annual Meeting, Pittsburgh, PA. 1-4 Nov. 2009.
- **Turk, J.K.***, and R.C. Graham. Field index for quantifying vesicular horizon morphology: development and application. GSA/ASA-CSSA-SSSA/GCAGS/HGS Joint Annual Meeting, Houston, TX. 5-9 Nov. 2008.
- **Turk, J.K.*** and R.C. Graham. Carbon and nitrogen storage in soils formed on a forested debris flow fan, southern California. ASA-CSSA-SSSA International Annual Meeting, New Orleans, LA. 4-8 Nov. 2007.

- **Turk, J.K.***, and R.C. Graham. Soil development in a forested debris flow chronosequence in southern California. WSSS/AAAS Pacific Division Annual Meeting, Boise, ID. 17-21 June 2007.
- **Turk, J.K.***, and R.C. Graham. Soil organic carbon dynamics in a forested debris flow chronosequence in southern California. IUSS 18th World Congress of Soil Science, Philadelphia, PA. 9-15 July 2006.
- **Turk, J.K.***, and R.C. Graham. Rates of soil genesis and carbon accumulation in a ponderosa pine forest using high resolution chronosequence analysis. ASA-CSSA-SSSA International Annual Meeting, Salt Lake City, UT. 6-10 Nov. 2005.

RESEARCH GRANTS, AWARDS, AND RECOGNITIONS

External Grants and Awards

- USDA Cooperative Agreement Subcontract through Purdue University. Completion of the Isee Databases for the North Central Region, 2017-2018 (\$8,921)
- National Science Foundation Doctoral Dissertation Improvement Grant. Vesicular soil horizons - the fragile skin of desert soils: Their distribution, formation processes, and relation to surface hydrology in the western U.S.A., 2011-2012 (\$14,962).
- USDA Soil Survey Research Grant. Vesicular horizon function in the arid western United States: hydrology and recovery from disturbance, 2009-2011(\$40,000).
- SSSA Division S05 Graduate Student Poster Competition 1st Place, 2009 (\$200 cash prize)
- UC-Davis Thayer Scholarship, 2008 (\$240)
- AAAS Pacific Division Student Travel Award, 2007 (\$150)
- SSSA Division S07 Best Paper on Soil C and N Processes, 2007
- Kearney Foundation of Soil Science Graduate Fellowship: Organic matter dynamics in buried soils on a debris flow fan, 2005-2006 (\$31,605)

Internal Grants (Stockton University)

- Research Experience for Undergraduates (REU) Award with Andrew Lindsay and Charles Lugg, 2016 (\$1,950.00)
- Provost opportunity funds. Agronomy Society of America-Crop Science Society of America-Soil Science Society of America 2015 International Annual Meetings, 2015 (\$626.70).
- Research Experience for Undergraduates (REU) Award with Kevin Hesson, 2015 (\$260.54)
- Research and Professional Development Grant. Soil geomorphology of forested lands historically managed for charcoal production, 2015. (\$5,800).
- Research and Professional Development Grant. Soil quality and carbon sequestration at 18th-19th century charcoal burning sites in New Jersey, 2014-2015. (\$5,800).
- Research and Professional Development Grant. Digital mapping of organic carbon in soils of the northeastern United States, 2013-2014 (\$5,400)
- Junior Faculty Award Program, 2012-2014 (\$2,370 in total)

Internal Grants (University of California, Riverside)

- UCR Environmental Sciences mini-GSA Travel Grants, 2007-2011 (\$3,000 in total)
- UCR Stolzy-Letey Environmental Science Travel Scholarships, 2008-2011 (\$2,250 in total)

- UCR Graduate Student Association Conference Travel Grants, 2007-2010 (\$1,440 in total)

Awards received by Undergraduate Student Research Advisees

- Lindsay, A.L. 2016. Darrel S. Metcalfe Student Manuscript Contest. 1st Place Paper.
- Moore, B. 2016. Students of Agronomy, Soils, and Environmental Sciences National Research Symposium Contest. 3rd Place Poster.
- Hesson, K.M. 2015. Darrel S. Metcalfe Student Manuscript Contest. 1st Place Paper.

Recognition in Newsletters and Releases

- Soil Judging Team sweeps regional competition (by Shawna Richter-Ryerson). Agronomy and Horticulture News, Institute of Agriculture and Natural Resources, UNL. 6 Oct. 2017.
- MAPSS 2015 Field Day at Cunningham Falls State Park, guest authors recruited by MAPSS member and Former President Barry Glotfelty (by Nina Stewart). Pedologue: Newsletter of the Mid-Atlantic Association of Professional Soil Scientists. Spring 2016.
- South Jersey Hydric Soils Field Trip (by Susan Demas). Pedologue: Newsletter of the Mid-Atlantic Association of Professional Soil Scientists. Summer 2014.
- Carbon storage in forest soils recovers rapidly following disturbance by mass wasting. Soil Science Society of America: New Releases. 16 Nov. 2009.
- UMD Soil Judging Team wins for the 4th year in row at the Northeast Regional Contest in Rhode Island! Pedologue: Newsletter of the Mid-Atlantic Association of Professional Soil Scientists. Winter 2004.

TEACHING

Courses taught at University of Nebraska, Lincoln

AGRO/NRES/SOIL279 Soil Evaluation

Courses taught at Stockton University

ENVL3432 Soil Science
 ENVL3431 Field Soil Morphology
 ENVL3430/GEOL3250 Geomorphology
 ENVL1100 Intro to Environmental Studies.
 ENVL2105 Physical Geography Laboratory.
 ENSC5230 Wetland Soils
 GNM2318 Soils & Civilization

Teaching Assistantships at University of California-Riverside

SWSC138 Soil Morphology & Classification.
 SWSC100 Introduction to Soil Science.

Teaching Development Programs

- Facilitator for Undergraduate Research Teaching Circle (2015-2016)
- Participant in “On the Cutting Edge: Teaching, Research, and Managing your Career” – a one-week workshop for early career geosciences faculty in Washington, DC (2013)

EXTERNAL SERVICE

Service to professional organizations

- Leadership positions
 - Past Chair, Soil Science Society of America Soil Mineralogy Division (2018)
 - Chair, Soil Science Society of America Soil Mineralogy Division (2017)

- Chair-Elect Soil Science Society of America Soil Mineralogy Division (2016)
- Symposia organized
 - Mineral Weathering across Scales (co-organized with Rebecca Lybrand). 2017 ASA-CSSA-SSSA International Annual Meeting, Tampa, FL.
 - Carbonate, Gypsum, Salts, and Dust (co-organized with Randal Southard). 2016 ASA-CSSA-SSSA International Annual Meeting, Phoenix, AZ.
- Committee service
 - Soil Science Society of America Higher Education Materials Committee (2016-2017)
 - Proposal Reviewer for Western Region National Cooperative Soil Survey Standards Committee (2016)
 - National Cooperative Soil Survey Science Committee (2015)
- Reviewer for scientific journals
 - Soil Science Society of America Journal
 - Plant and Soil

Service to K-12 educational programs

- Faculty mentor for high school student in Environmentors program (2017-2018)
- Soils training for Cedar Creek High School Envirothon team (2016)
- Workshop leader for Tweentech: A day of hands-on technology workshops for girls grades 6-8 (2016)
- Workshop leader for Teentech: A day of hands-on technology workshops for girls grades 9-11 (2015)
- Faculty liaison/coach for Dual Credit Program at local high schools (2014-2017)
- Presenter at New Jersey Envirothon South Jersey Training Session (2013)
- Guest lecturer at North Hagerstown High School (2003, 2011)

UNIVERSITY SERVICE

University of Nebraska, Lincoln

- Advisor to Soil Judging Team Registered Student Organization (2017-present)
- School of Natural Resources Community Engagement Committee (2017-2020)

Stockton University

- Faculty representative at Open House Events (2012-2017)
- Stockton Sustainability 2020 Committee (2014- 2017)
- Natural Science and Mathematics representative to Library committee (2015-2017)
- LSRPA Scholarship Committee (2015-2017)
- Search Committee: Wildlife Management/Recreational Planning Research Fellow (2015)
- Search Committee: Assistant Professor of Hydrology (2013-2014)