

**CHAD J. PENN, PH.D.**  
Research Soil Chemist  
USDA-ARS, National Soil Erosion Research Laboratory

***Education***

<b>Ph.D. Soil Chemistry, Virginia Tech</b>	<b>2004</b>
<b>M.S. Environmental Soil Science, Univ of Delaware</b>	<b>2001</b>
<b>B.S. Soil Science, Penn State Univ</b>	<b>1998</b>

***Positions Held***

**Research Scientist and adjunct professor of agronomy:** (2016 to present) USDA-ARS National Erosion and Sedimentation Research Laboratory and Purdue Univ, West Lafayette, IN

**Professor of soil, agricultural, and environmental chemistry:** (2016) Oklahoma State University, Department of plant and soil science (Stillwater, OK)

**P.E. Harrill Professorship in Crop Science:** (2016) Oklahoma State University, Department of plant and soil science (Stillwater, OK)

**Associate professor of soil, agricultural and environmental chemistry:** (2010-2016) Oklahoma State University, Department of plant and soil science (Stillwater, OK)

**Assistant professor of soil, agricultural and environmental chemistry:** (2005-2010) Oklahoma State University, Department of plant and soil science (Stillwater, OK)

**Post-doctoral research fellow:** (2004-2005). USDA-ARS Pasture Systems and Watershed Research Management Unit (University Park, PA).

***Research Emphasis***

Current research is focused on nutrient transport mechanisms, improving plant nutrient recommendations, thermodynamics of surface reactions, design and construction of phosphorus removal structures, and animal waste management.

***Professional Service***

- Adjunct faculty member at Sao Paulo State University, University of Copenhagen, University of Maryland, and Purdue University.
- Membership and service in Soil Science Soc. Of Am., Am. Society of Agronomy, Soil and Water Conserv. Soc., Institute for Sustainable Environments (OK State), Water Research and Extension Center (OK State), SERA-17 Ag phosphorus workgroup
- Associate Editor for *Journal of Environmental Quality* (2008-2012), *Soil Use and Management* (2012-2021), and *Soil Systems* (2021 – present)
- Scholarship committees: ASA division S-6 (soil and water conservation; 2011-15), OK State agronomy and OK State Env. Science (2006 -16), and Purdue ESE scholarship committees (2020-present)
- Oklahoma Governor’s Task Force for produced water and earthquakes (2016)

***Teaching Experience***

- Co-taught graduate level Soil Chemistry at Purdue (Spring 2021)
- Developed and taught undergraduate and graduate level soil and environmental chemistry courses at OK State Univ: Soil 4893 Soil and Environmental Chemistry, Soil 4863 Waste

Management, Soil 5224 Advanced Soil and Environmental Chemistry, Soil 5613  
Laboratory Methods in Soils and Environmental Chemistry (2005-16)

### ***Awards and Honors***

- National Academy of Inventors (2015) “in recognition of advanced technological development and innovation as issued by the United States Patent and Trademark Office”.
- American Library Association Excellence in Library Programming Award (2015) for the Science Café Series on “Oil and gas drilling and hydraulic fracturing”.
- Journal of Soil and Water Conservation (2014) Feature paper for March/April, 2014 issue.
- American Society of Agronomy Extension Educational Materials Program (2011)
- “Certificate of Excellence” in recognition of the development of outstanding agronomic education material in the category of publications over sixteen pages (“Oklahoma forage and pasture fertility guide”).
- American Society of Agronomy Soil and Environmental Quality Division (2011) “Young Investigator Award”, given based on professional contributions in research and impact.
- American Society of Agronomy Environmental Quality Division (2010) “Inspiring young scientist award” given based on “excellence in research, teaching, extension, or industry in the area of environmental quality”.
- Gamma Sigma Delta (2009) “New Research Scientist” award.
- USDA-ARS (2005) Certificate of extra effort “toward the dissemination of research results in 2005”.

### **HIGHLIGHTS**

<b>Refereed publications</b>	94 published
<b>Book Chapters</b>	4
<b>Extension fact sheets and publications</b>	12
<b>External grants awarded to date</b>	\$7,415,067
<b>Patents (including pending)</b>	2
<b>Graduate students</b>	11
<b>Interns</b>	13
<b>Visiting graduate students</b>	4
<b>Books</b>	1

### ***Example of recent papers:***

- Penn, C.; J. Frankenberger, and S. Livingston. 2021. Introduction to P-TRAP software for designing phosphorus removal structures. *Agric. Environ. Lett.* 2021, 1–6.
- Guo, T., L. Johnson, G. LaBarge, C. Penn, R. Stumpf, D. Baker, and G. Shao. 2021. Less phosphorus applied in 2019 resulted in less dissolved phosphorus transported to lake Erie. *Environ. Sci. Tech.* 55:283-291. <https://doi.org/10.1021/acs.est.0c03495>
- Scott, Isis, Chad J Penn, and Chi-hua Huang. 2020. Development of a Regeneration Technique for Aluminum-Rich and Iron-Rich Phosphorus Sorption Materials. *Water* 12.6: 1784. <https://doi.org/10.3390/w12061784>
- Penn, C.J., and J.J. Camberato. 2019. A critical review on soil chemical processes that control how soil pH affects phosphorus availability to plants. *Agriculture*. 9(6), 120; <https://doi.org/10.3390/agriculture9060120>.
- Penn, C.J., I. Chagas, A. Klimeski, and G. Lyngsie. 2017. A review of phosphorus removal structures: how to assess and compare their performance. *Water*. 9(8) DOI: 10.3390/w9080583