

**Shalamar Armstrong**  
sarmatro@purdue.edu

**Education**

Southern University, Baton Rouge, LA	Soil Science	BA, 2001
Alabama A&M University, Normal, AL	Soil Chemistry	MS, 2005
Purdue University, West Lafayette, IN	Agronomy	PhD, 2010

**Positions**

2015 - Present	Associate Professor of Soil Conservation and Management, Purdue University
2011-2015	Assist. Professor of Soil Science, Illinois State University
2010-2011	Research Soil Scientist-Postdoctoral, USDA-ARS, National Soil Erosion Research Laboratory

**Awards, Honors, Honorary Service**

2020	Outstanding Graduate Mentor and Teacher Award
2019	Unsung Diversity Hero Award, Purdue University
2015, 2014, 2013	Outstanding Faculty Researcher, Department of Agriculture, Illinois State University
2014	Outstanding Faculty Teacher, Department of Agriculture, Illinois State University
2014	Red Tassel Award for Outstanding Service, Department of Agriculture, Illinois State University
2013	Faculty Impact Award, Illinois State University (Student Nominated)
2010	Outstanding Graduate Student Ph.D. Research Award, Purdue University, Agronomy Department

**Select Products:**

1. Hodgskiss, C. L., B. G. Young, S. D. Armstrong, and W. G. Johnson. 2021. Evaluating cereal rye and crimson clover for weed suppression within buffer areas in dicamba-resistant soybean. *Weed Technology*, 1-8. doi:10.1017/wet.2020.12.
2. Thompson, N. M., C. J. Reeling, M. R. Fleckinsein, L. S. Prokopy, and S. D. Armstrong, 2021. Examining Intensity of Conservation Practice Adoption: Evidence from Cover Crop Use on U.S. Midwest Farms. *Food Policy*, DOI: 10.1016/j.foodpol.2021.102054.
3. Sadeghpour, A., O. Adeymi, D. Hunter, Y. Lua, and S. D. Armstrong. 2021. Precision planting impacts on winter cereal rye growth, nutrient uptake, spring soil temperature and adoption cost. *Renewable Agriculture and Food Systems*. doi: <https://doi.org/10.1017/S1742170520000411>
4. DeSimini, S. A., K. D. Gibson, S. D. Armstrong, M. Zimmer, Maia, O. R. Lucas & W. G. Johnson. 2020. Effect of cereal rye and canola on winter and summer annual weed emergence in corn. *Weed Technology*, 34(6): 787-793. doi: 10.1017/wet.2020.51.

5. Thompson, N., S.D. Armstrong, R. Roth, and M.D. Ruffatti. 2020. Direct short-run economic returns to a predominantly cereal rye cover crop mix in a traditional midwest corn-soybean rotation. *Agronomy Journal* 112:1068–1083
6. Lacey, C., C. J. Nevins, J. Camberato, E. Kladviko, and S.D. Armstrong. 2020. Carbon and nitrogen release from cover crop residues and implications for cropping systems management. *Journal of Soil and Water Conservation* 75:505-514
7. Nevins, C.J., C. Lacey and S.D. Armstrong. 2019. The synchrony of cover crop decomposition, enzyme activity, and nitrogen availability in a corn agroecosystem. *Soil and Tillage Research* <https://doi.org/10.1016/j.still.2019.104518>
8. Ruffatti, M.D., R. Roth, C. Lacey, and S.D. Armstrong. 2019. Impacts of nitrogen application timing and cover crop inclusion on subsurface drainage water quality. *Agricultural Water Management* 211:81-88.
9. Roth, R., M.D. Ruffatti, P.D. O'Rourke, and S.D. Armstrong. 2017. A cost analysis approach to valuating cover crop environmental and nitrogen cycling benefits: A central Illinois on-farm case study. *Agricultural Systems* 159:67-77.

### **Synergistic activities**

**Overview of expertise:** Dr. Armstrong is an environmental soil scientist/conservation agronomist, and his research program investigates the agronomic, environmental, and economic impacts of current and emerging regenerative agricultural practices within conventional and alternative cropping systems of the Upper Mississippi River Basin. Dr. Armstrong's research is executed on multiple scales ranging from the mechanistic and isotopic investigation within the soil microbiome to evaluation of conservation practices on a watershed scale. Annually, Dr. Armstrong's applied research program advances the knowledge of the agricultural and farming community on cropping systems management that facilitates nutrient loss reduction, nutrient cycling, and competitive crop productivity.

1. Interdisciplinary Research Collaborations: Co-PI of a national cover crop research grant "Cover crop network for enhancing the sustainability of us cropping systems". Dr. Armstrong's role is to facilitating field scale and on-farm research involving adaptive management practices and real-time data analysis through sensor-based agriculture. This national research project involves greater than 15 universities and will generate data from established cover crop research sites throughout the eastern half of the United States.
2. The Midwest Cover Crops Council: Indiana state representative, Midwest Cover Crops Council is a consortium of universities, agencies, individuals and the general public that seeks to provide education and training to farmers and agencies to facilitate cover crops adoption, expand funding for relevant cover crop research, and to develop policy incentives and programs to increase farmer adoption of cover crops in the region. *Knowledge Transfer:* Contributing author on 6 cover crop management extension publications, which is widely distributed through the website of the Midwest Cover Crop Council.
3. Teaching: Soil Conservation and Water Management; a data driven experimental learning course designed to help students to understand the underlying science and solutions of soil and water conservation.